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instantaneously from one end of the earth to the other. To Fulton, for the practical application of steam in the promotion of commerce and the mechanic arts. And to numerous others for the development of other departments of science no less important in the promotion of the comfort and happiness of mankind. Among these we now wish to speak particularly of Andre Michaux, his son, and their successor Thomas Nuttall; of their labors in furnishing us with an accurate knowledge and description of all our native forest trees, both ornamental as well as useful in civil and naval architecture and the domestic arts; together with valuable information on points of individual and national economy connected with arboriculture.

Andre Michaux was born in the Park of Versailles, in 1746. At an early period he manifested a taste for agriculture and botany, which was encouraged by his early friend, M. Lemmonier. After spending some time in the *Jardin des Plantes*, he went to England, and returned to France with a great number of trees, which were planted in the gardens of his friend, M. Lemmonier. In 1780 he went to the Pyrenees; he traveled in Spain, thence to Persia, when in 1782 he was appointed Consul to that country. He went to Aleppo, Bagdad, he traveled the banks of the Tigris and the Euphrates, through Bussorah, and many other places, sending home numerous seeds and plants. He thus continued his travels for two years, traversing mountains and deserts from the Indian to the Caspian sea. In June, 1785, he returned to Paris, where he was soon chosen to visit the United States, to collect seeds of trees and shrubs. He established a garden near New York for the collections he made—traveling through New Jersey, Pennsylvania, and

THE NORTH AMERICAN SYLVA.

In all ages of the civilized world, men have occasionally risen up who adopt some particular branch of science as a *speciality*, to which they devote their entire energy and life, often undergoing the greatest privations and hardships, with the sole object of promoting the welfare and happiness of mankind, in seeking to develop some favorite science. It is in this way that the great mass of human knowledge has been achieved. These are termed men of *Genius*, whose peculiar characteristic consists in the concentration of the rays of intellect upon any particular object, art, or science, arising from an innate love imparted to them for that particular study. Thus it was that Newton discovered the true system of the Universe, and those wonderful laws that govern the world and systems of worlds. It is to Franklin that we are indebted for the discovery of the wonders of electricity, and to Morse, in our own day, for the employment of this mysterious and invisible agent as a messenger in communicating thought

Maryland, where he gathered a large quantity of trees and plants which he shipped home to France. In 1789 he went to South Carolina, to establish a garden at Charleston, leaving his son in charge. He traveled the whole range of the Alleghany mountains, and a wide extent of country North and South, continuing to make collections and forwarding them to France. In these travels he met with many new trees and shrubs which afforded him the greatest pleasure, and stimulated him to overcome the severest hardships and privations. His great object now was to study the character of all the American trees, and to determine their native place, and also at what latitude they began to grow rare, and where they disappeared altogether, and also to ascertain what soil suited them best. He traveled through portions of Kentucky and Tennessee while those regions were but little known only to wild beasts and the Indians. It was in the latter State that he fixed the home of the Tulip tree (Poplar). In this favorite pursuit he continued his journey to the Floridas, and thence to Hudson's Bay. At one time he found himself one hundred and sixty leagues from any human habitation. He afterwards, in behalf of the United States, undertook a journey to Mexico, and after spending upwards of ten years on this continent he returned to Paris at the close of the year 1796.—Here he found that his gardens, containing sixty thousand trees, that he had labored to collect and send home, had been destroyed during the Revolution. Here he occupied his time for a while in collecting the plants he had subsequently forwarded from the United States, and in preparing the materials for the *History of the North American Oaks*, for his *Flora Borealis Americana*. In these labors he was assisted by his son. Failing to obtain another appointment to visit America, he went to New Holland and thence to Madagascar, where he died in November, 1803, aged fifty-seven years.

Francois Andre Michaux, the only son of Andre Michaux, was born on the 16th day of August, 1770, and, as stated above, accompanied his father, and as it would be expected manifested the same love and enthusiasm in this interesting pursuit, and being desirous to complete the unfinished work of his father in the United States, he obtained a commission to that end from the Minister of the Interior. He again embarked for Charleston, with the captain and in the same vessel that had brought him home thence some ten years previous. He arrived at the place of his destination in the

fall of 1801, and soon commenced his explorations through various Northern States, thence to Pittsburg and down the Ohio, traveling alone to Lexington and through the country to Nashville in Tennessee. The favorable impression made upon the minds of the early settlers by the father, caused the son to be received with the most marked attention and hospitality wherever he was known.

In 1803, Michaux returned to France with the view to publish his journey in the United States. After remaining in France until the winter of 1806, he again set sail for Charleston, but the vessel being taken by a British man-of-war, she was sent to Halifax; Michaux was retained a prisoner on board for nearly two months, and was finally set at liberty on the Island of Bermuda, where, for a time, he continued his favorite pursuit. In May following he sailed for the United States, where he again explored the wilds from Maine to Georgia, traveling thousands of miles through interminable forests, often far distant from any human habitation, to hold converse alone in the wilderness, abounding with the spontaneous productions of nature.

At the close of these explorations, Michaux returned to Paris, where the Society of Agriculture appointed a committee to report on the success of his several voyages. The report was highly complimentary to Michaux, for the faithful execution of his trust and the importance and value of the service he had rendered his country, and called forth a unanimous vote of thanks.

From the seeds he had sent home, more than 250,000 young trees had already sprung up, and were in a flourishing condition.

The two following years he was actively employed in the publication of his great work, *Histoire des Forestiers de l' Amerique du Nord*, which was anxiously looked for by all who took an interest in the Flora of the United States.—This work was presented in three volumes, most splendidly illustrated with copper-plate engravings. It was soon translated into English under the title of the *North American Sylva*, with notes and additional plates. It has since passed through several American editions. The last has just been published by Messrs. Rice & Hart, Philadelphia. Besides giving a complete description of the forest trees of the United States, Canada and Nova Scotia, considered particularly with respect to their use in the arts, and their introduction to commerce; it also contains a description of the most useful of the European

forest trees, illustrated with one hundred and fifty-six finely colored copper-plate engravings by the best known artists, with notes by J. Jay Smith. Besides the three volumes by Michaux, two others have been added by Thomas Nuttall, F. L. S., containing a description of all the forest trees discovered in the Rocky mountains, the territory of Oregon, down to the shores of the Pacific, and into the confines of California, as well as in the various parts of the United States; illustrated with one hundred and twenty-one finely colored plates. The mechanical execution of these five volumes is in perfect accordance with the great value of the works themselves. More perfect specimens of the book-making art we have never seen, and the engravings are so life-like that one can hardly persuade himself that he is not viewing the living branches, blossoms, fruits, &c., of the trees themselves. Owing to the great cost of the colored plates, the work is sold only to order by Messrs. Rice & Hart, Philadelphia, Pa.

In our sketch of the lives and labors of the two Michaux, a limited space has not permitted us to give even an outline of their immensely valuable services rendered to the country, much less to allude to the privations and sufferings they underwent in the execution of their valuable labors.

As an act of justice to the memory of Andre Michaux, we will here record, in evidence of his love for the cause in which he devoted his entire life, and as a testimonial of his heart-felt gratitude for the hospitality and assistance which his father and himself had received in this country, during the course of their long and toilsome journeys, a testamentary provision which he made in favor of the American Philosophical Society for the promotion of the science of Sylviculture in the United States.

This testament was intrusted to the care of a friend and was deposited in the archives of the Philosophical Society, but was not to be opened until after his death, which was done consequently by the Recorder of Wills of the city of Philadelphia. By this he bequeaths to the American Philosophical Society the sum of fourteen thousand dollars, "*For the progress of Agriculture, with reference to the propagation of useful Forest Trees.*" By the same instrument he also endows the Society of Agriculture and Arts, of Boston, with the sum of eight thousand dollars for similar purposes.

After a day of laborious toil, devoted to the planting of *American trees*, this great and good man died suddenly from a stroke of apoplexy,

on the 23d of October, 1855, at the age of 85 years.

It will be appropriate here to add a brief notice of the life and labors of Thomas Nuttall, who labored in the same cause, and who completed the great work which Michaux so nobly began.

Thomas Nuttall was born in Yorkshire, England, in 1784. He came to the United States at the age of 22 years. After spending some time in Philadelphia, his great love for botany induced him to make excursions into the wilds in various parts of the then comparatively new country, often with no human being within hundreds of miles. In one of these trips, five hundred miles beyond the pale of civilization, he was taken sick, when he was found and taken care of by an Indian, who put him in a canoe and rowed down the river to the habitation of white men. Many interesting facts and incidents connected with the travels of Mr. N. and the natives of the forest are recorded, but we have not space even to allude to them.

On one excursion he started on foot from Lancaster, Pa. to Pittsburg, and from thence down the Ohio river in a skiff, with a young stranger, all the way to Arkansas river. He, at this time, spent an entire year, returning to New Orleans, suffering many hardships from fatigue and sickness. In 1822 he was appointed Professor of Natural History at Cambridge, Massachusetts; this not suiting his taste, he resigned his position and returned to Philadelphia, and there made arrangements for a journey to the Pacific coast. During this voyage he begged to be landed at Cape Horn, where he, in company with Thomas Say, the great entomologist, and other devotees of science, spent considerable time in the pursuit of their various objects.—After gathering his materials in his various travels over the Rocky mountains, in California and Oregon, he returned and commenced his additions to Michaux's *Sylva*. In 1842 his uncle died in England, leaving him property valued at \$5,000, on condition that he should reside nine months in each year in England.—The object of this condition of his uncle was, the fear that he would sacrifice his life in his dangerous journeys in the pursuit of knowledge. Being poor, he returned to England, but occasionally during the short term allowed him by the provisions of the will, he visited the United States.

Like Michaux, he labored with his own hands in cultivating his favorite trees and plants, and while engaged in opening a case of

plants, sent to him from the Himmalehs by his brother-in-law, he unfortunately over-strained himself, which soon after caused his death.—He died in England on the place left him by his uncle, at the age of 75 years.

American and English Agricultural Fairs.

Agricultural fairs in England, date back to a very early period in the history of that country. The English fairs of the present day differ widely from the farmers' annual festivals as held in the United States. With us, besides the display of every kind of farm animal and agricultural implement, every variety of manufactured goods are exhibited, and protected under suitable buildings and sheds; and everybody, with their wives and daughters, attend. In England the fairs partake more of the nature of cattle shows and markets, in which the lords, nobles, and farmers constitute the chief attendants.—The animals are brought into an inclosure, without the preparation of sheds for their protection. At some of the great fairs most kinds of improved stock are exhibited; at others, they are confined to a single article of trade.—For instance, every year on the 10th of October, there is a sheep fair at Wayhill, in Hampshire, and in August there is another at Ipswich, where a hundred thousand lambs are sold annually. If an English farmer wants sheep for stock, he knows where the best are to be found, without spending time in traveling over the country to hunt them up; or if he wants a lot of lambs or wethers to eat his extra grass, and finally for the butcher, he can buy them in a single day: whereas, without these annual gatherings, he might spend a month in traveling over the kingdom, and then not suit himself so well. Our Lexington and Paris court-day sales partake something of the character of these English fairs, and prove a great convenience to farmers and stock breeders generally. As our country extends and increases in importance, these sale days might also be increased to the advantage of the farmers generally. The sales on the monthly court-days in Paris, Ky. are frequently attended by dealers in cattle, horses, and mules, often from a distance of five hundred or a thousand miles; and the little town has become as noted in this respect as any of the great cattle marts in Great Britain.

BUCKEYE BUDS AND LEAVES—*Eds. Valley Farmer*:—This bush and also trees are numerous in parts of this county, and it is a great pest, and has made sad havoc among our cattle. I would like to ask through your columns whether any person is acquainted with a mode and proper time for killing them. H. H. A.

Ray Co. Mo., April, 1860.

Advantages of Summer Soiling.

During the period of the New York State Fair, held in Albany, discussions were held in the great Hall of the State Agricultural building, upon various subjects connected with farming. These meetings were attended by many of the most intelligent farmers of New York and other States. On Tuesday evening the subject of Grasses formed the topic for discussion, when some very interesting facts and statistics were disclosed. On the following evening (Wednesday) the subject of "Manures—Best kinds—Best modes of application," was the subject introduced. Several gentlemen took part in the discussion, which was continued through the evening. Among the speakers introduced by the Hon. A. B. Conger, President of the State Agricultural Society, was the Hon. Josiah Quincy, Jr. of Massachusetts.

Mr. Quincy was received with applause, and spoke in substance, as follows:

"I do not speak, thinking to instruct the farmers of New York. Fifty years ago my farm cut twenty tons of hay; it now cuts three hundred tons (Cheers). This is due to the soiling system, which consists in keeping cattle in stables. It makes a great saving of land where it is valuable; it makes a saving of fencing; it economises food; the animals are kept in better condition and have greater comfort; a large amount of milk is produced, and all the manure is saved. These are the benefits and advantages of the soiling system. Every inch of land is under cultivation, and there are no wast spots. In regard to keeping cows, the manure of a cow is equal in value with her milk; one cow will produce in a year three and a half cords of solid and the same of liquid manure; this composted with twice its amount of muck, would increase the amount to twenty-one cords of manure a year from one cow, the value of which, allowing the shrinkage to be twelve per cent. would amount to \$150. The farms of France are all less than five acres each in size, and our farmers do not yet know how much can be produced upon small farms by good cultivation, with the application of the system of soiling" (Cheers).

Of course it depends upon the value and quantity of land and other contingent circumstances, of markets, &c. to determine the economy of this system of feeding. Mr. Quincy has long practiced soiling, and was one of the first who introduced it in this country. We have often seen articles from his pen setting forth its advantages. He might have added another, viz: the improved condition that meadows may be kept in when cattle and horses are not allowed to run upon them. More damage is done to the growing grass by the constant tramping of

the feet of animals, injuring both top and root, and cutting up and packing the soil, than is done by simply cropping the grass.

There are thousands of farms where the system may be introduced to the greatest advantage, especially small farms; and even on large farms we believe there would be a great saving, in some instances in feeding both cattle and mules. Upon the large farm of Mr. R. A. Alexander, of Kentucky, soiling is considerably practiced. To many farmers fencing is one of the heaviest taxes they are called upon to meet; soiling will do away with this to a great extent, besides add immeasurably to the manure heap, to say nothing of the other advantages enumerated by Mr. Quincy.

ROTARY STEAM PLOW.

The successful and economical use of steam in preparing land for farm crops is an important desideratum of the present age. The mechanical genius of England, as well as of America, are busily engaged in securing this great end, and it is more particularly important to the great Western States of America than to any other country. Experiments in England, in this line, are regarded almost successful, while our American mechanics have more nearly accomplished this grand object. The greatest success, thus far, seems to have attended the employment of traction engines in the use of the ordinary plows; this we have frequently intimated is attended with some serious objections, and particularly that of the immense weight of the engine necessary to overcome the heavy resistance of a gang of plows running at the depth it is desired to break up the deep soil of our prairies. In view of this objection we have frequently taken occasion to advocate the rotary or digging principle, which will require no power of traction, and hence, an engine of one-quarter of the weight of one designed to draw a gang of plows would prove fully adequate to pulverize the ground a foot or more in depth with comparative ease. Several rotary diggers or spading machines have been invented, all attended with one important difficulty, viz: that of clogging in damp or tenacious soil, like most of that of the prairie States. That this objection would ultimately be overcome, we have never entertained a doubt; and the wonder with us has been that a machine of this kind has not long since been brought to perfection.

In a late number of the *Milwaukee News*, we notice quite an extended notice of a Rotary Plow, invented by Mr. B. F. Field, of Beloit,

Wisconsin. This machine was on exhibition at the late U. S. Fair, at Chicago, but owing to some "wire working" by interested parties, Mr. Field was unable to secure the attention of the Committee at a trial, although frequently promised by them. The machine, however, was put on trial at the State Fair in Wisconsin, and it is said by competent judges to have entirely overcome the difficulties heretofore attending this kind of machine. The mechanical arrangement in this particular is one with which we are acquainted, having it in practical operation in a machine employed for quite another purpose, yet we can see no reason why it may not be completely successful, employed as Mr. Field has, for the purpose of clearing the spades or teeth from the adhesion of earth. This one point overcome and the rotary digger or plow will supersede the traction engines altogether; and whether Mr. Field has fully succeeded or not, the thing is perfectly practicable, and we are confident, at no distant day, will be fully realized.

It is claimed for Mr. Field's machine that it can be built for the sum of \$250 or \$300, and that the engine and plow need not weigh over three and a half tons.

In order to render steam plowing available some cheaper plan must be adopted than that of traction machines. We therefore allude to the subject again with the view to call the attention of mechanics and inventors to this particular point, and hope soon to have the satisfaction of seeing a dozen acres a-day broken up by steam machinery that shall not exceed the cost of two span of good horses.

TREES.—Our mind is again called to the subject of trees by a notice in the papers of an appropriation of \$2,000,000, by the French Government, for planting trees on the steep hill and mountain sides of some districts of that country, which have been washed bare and into gullies by the rains and freshets. Napoleon knows what he is about. Better, by far, to grow immense forests on such tracts of, now, useless land, than to let it be forever wasted by wind and water. A tree is an ornament and a utility. A grove is refreshing in any landscape, and useful on any farm. Some American farmers might take the hint and plant on otherwise useless spots, on hill sides and along ravines, and so ornament and benefit their farms: and especially about their residences a few trees is becoming and agreeable. *

BEST TIMBER FOR FENCING— COST OF FENCING.

We publish with pleasure the following interesting article upon one of the most important questions to farmers relating to their profession:

HANNIBAL, Mo. Jan. 2d, 1860.

EDITORS OF THE VALLEY FARMER:—The inclosed communication was written by me to be presented to the officers of the St. Louis Agricultural and Mechanical Association at the late Fair; but finding that the officers were so much engaged during the Fair, and that there was no prospect of holding a meeting for the consideration of such subjects, I declined presenting it, and now offer it to you for publication if you think it is worthy of a place in your valuable paper.

Respectfully,
JNO. S. STEVENSON.

HON J. R. BARRET, *President of the St. Louis Agricultural Association:*

Sir—The subject of growing timber for fencing, and for farming purposes, and the materials for fencing, have occupied a portion of my time, since I have become familiar with the wants of the farmer to inclose the vast prairies of Missouri. The assembling together of the farmers of Missouri, and in fact from all parts of the West, at the St. Louis Fair, has induced me to offer for your consideration a few suggestions on the subject of fences, and the best materials out of which to make them.

Twenty-five years ago I was introduced to Dr. Gideon B. Smith, of Baltimore. I was then young, and had, for the first time, begun to take an interest in the pursuits of agriculture. Knowing the varied acquirements of Dr. Smith, and more particularly his devotion to botany, and all that appertains to the science of agriculture, I availed myself of the few hours' interview, to discuss the subject of the durability of the different kinds of timber for posts and fences. Previous to the meeting of the Fair I had it in contemplation to write an article for the *Valley Farmer*, on the subject of timber for posts and rails, and intended to give Dr. Smith as authority for the statements I should make. But for fear my memory would not enable me to give a correct statement of facts, I concluded to address a letter to Dr. Smith, who is still a resident of Baltimore city. A few weeks ago I wrote to him, and I here give an extract from his letter, which will partly explain the subject of my letter:

"I was much pleased with your reminiscences in relation to our old conversation about the Catalpa. I am unable to recollect the conversation. It is so long ago, and I have had similar conversations with so many, I may say thousands of persons, it would be almost miraculous if I could remember each individual. Besides my advanced age would, of itself, militate against it. But though I have forgotten the circumstance of the conversation, the facts involved in the subject of it, remain perfectly fresh in my memory, and will serve to correct the impression you retain of the conversation. I could not

have mentioned an old gate post of Catalpa as being of my own knowledge, but must have represented it as described by Gen. Harrison in his speech. I have this morning looked over the old volumes of the *American Farmer* and found it. I will give you an extract from it, which will make our old conversation plain, and correct all impressions:

"Extract from the Address of Gen. Wm. H. Harrison, before the Agricultural Society of Hamilton County, Ohio, 15th and 16th, June, 1831, and published in the *American Farmer*, Aug. 5th and 12th, 1831, Vol. XIII.

"Speaking of fencing, Gen. Harrison says: 'If posts or stakes of locust or mulberry can be procured they will last many years. But the wood of the Catalpa affords perhaps a more lasting material than either; it is of very quick growth and easily cultivated. This valuable tree is indigenous to the lower part of Indiana, and grows to a very large size upon the Wabash and some of its branches. Its ability to resist decay has been sufficiently tested in the neighborhood of Vincennes, both underground and in contact with it. Over the little stream of the Desha, four miles from Vincennes, one of these trees had fallen before emigration had taken place from any of the States to that place. It was certainly lying there in the year 1785, when a colony of Virginians from the south branch of the Potomac emigrated to that place, and for many years served as a footbridge over the stream. I was informed by a gentleman of unquestionable veracity that it was only partially decayed a few weeks since. The same gentleman, Dr. Hiram Dickson, informed me that a bar post, which was made in the year 1770, and which has been taken up and removed to his own farm by his brother-in-law, Maj. Andrew Purcell, is still sound, and answers the purpose for which it was originally intended.'"

The address of Gen. Harrison was made twenty-eight years ago, and has no doubt been read by thousands of farmers; and with all of the force of testimony in favor of the durability of the Catalpa, I doubt very much if one in a hundred who read the address, ever used the Catalpa for posts, or have ever cultivated the tree for such purposes. I have been familiar with the Catalpa from a boy, but only knew it as an ornamental shade tree, until I read the address of Gen. Harrison, in 1831. It was that address which first drew my attention to the subject, and the conversation with Dr. Smith that impressed it deeply in my memory; and although I frequently made it the subject of conversation with farmers deeply interested in the subject, I do not know of a single instance of an experiment being made, excepting those made by myself. I had but one Catalpa tree on my farm; about the year 1837 the tenant cut a sprout from the old tree, about 5 inches diameter; he put it in the ground for a post, by the side of a white oak, some 6 or 7 inches diameter. The Catalpa post outlasted two white oak posts, was afterwards removed without my knowledge and was lost sight of. In 1843 I put into the ground for gate posts a Catalpa and a red cedar; the trees were about 14 inches diameter at the base;

the posts were squared to 10 inches. In the fall of 1857 I visited my old home, saw the gate post out of the ground; it was taken up for removal. The Catalpa was perfectly sound, as was also the cedar post. I requested my brother to note the date it was first put in the ground, and to keep it as a post, and also to keep it in remembrance by some of his family as long as it lasted. These are all the instances within my knowledge where the Catalpa has been used for posts. But as suggested by Dr. Smith in his letter—"That if application be made to some one at Vincennes for information, no doubt there are many instances of its long continued use in that vicinity."

Deeming the subject of great importance to the farming interest, I have introduced it before the Agricultural Association of St. Louis, with the hope that the Association may adopt some speedy means to introduce the cultivation of the Catalpa and other valuable trees. The seed of the Catalpa is borne in long pods; in a few weeks they will do to save, and if any steps are taken the sooner it is done the better, to secure the present growth of seed. The various varieties of timber used for fencing is known to most farmers, and many of them know, from years of experience, that the annual tare for fencing is one of the most burdensome, and that the introduction of any variety of durable timber for posts and rails would be hailed by them as a great blessing. The Catalpa from its rapid growth and easy culture seems to offer greater inducements than any other tree. The experience of the last few years with the Osage Orange for hedges, ought by this time to foreshadow what the prospect will be for general practical use. I have seen but few of the hedge fences; most of them have been neglected, and cannot be cited in condemnation of hedges.

The wire fence was first introduced into Pennsylvania about the years 1808 or '9. Owing to the high price of iron from that time until some twenty years ago, the subject has remained dormant. Within the last twenty years it was revived, and some enterprising farmers introduced it by way of experiment. The only important wire fence that I have noticed was on a farm lying immediately on the the Baltimore and Washington R. R. The time it was first erected I do not remember, but am under the impression that it has been standing twelve years or longer. Whether it has proved satisfactory, can be learned from the officers of the Agricultural College of Maryland. The wire fence I deem worthy of a trial, and for that purpose the St. Louis Agricultural Association are fully competent to the task, and it is desirable that some such enterprising company shall take the subject in hand forthwith.

Whilst I am writing on the subject of fencing, I wish to introduce another view of the subject; to inquire if there is not some way by which the farming interest can be relieved of a part of the burden by lessening the amount of timber required for fences. To effect the object I have in view it will require some legislation to enforce it, and before the people are called upon to sanction a law that would probably operate against a small portion of our citizens, it would be advi-

sable to have unquestionable facts to lay before the people, previous to requiring the action of the Legislature. I propose that in taking the next census by the United States, that there shall be added to the duties of the Marshal the enumeration of all the fencing in each of the States, stating the quantity and cost when new, and the annual cost for new rails to repair and replace the annual decay. How much of each variety of fencing, rail fence, post and rail, board fencing, hedges; the amount in yards, and wire fence, with the first cost of each per hundred yards or feet. All lots and gardens in villages and towns included. By giving a notice through the public papers a few weeks in advance of taking the census, the farmers could count their fences and make their estimate with as great accuracy as they could estimate the production of their farms.

The object in view is to show the relative value between the cost of fencing and the amount of hogs raised in each State. It is the necessity of making fences to keep out hogs which makes the labor and cost so great. If the post and rail is introduced, more than half the timber would be saved, and other advantages would be gained. If post and rail fences, or the wire fence, is adopted, it will then devolve on every farmer to take care of his own hogs. The question of economy of allowing hogs to go at large, or keeping them within an inclosure, in my opinion it is in favor of keeping them inclosed on the farm. And when the question is settled as to the annual cost of fences, compared with the annual crop of hogs, and reduced to figures, the agriculturist will then be able to decide what is his true interest.

In October, 1842, I had the pleasure of hearing a very able address delivered before the Agricultural Society of Philadelphia, by the Hon. Nicholas Biddle. Mr. Biddle had carefully prepared a statement of the cost of fencing in the State of Pennsylvania. I do not recollect his figures, but the cost was enormous, and at the time created a strong sensation in favor of reform in the expenses of fencing. The address can be found in some of the agricultural papers of that date, and will be an interesting document for those interested in the subject of fences and the cost.

Having touched upon the subject as briefly as possible to make myself understood, I submit to the consideration of the St. Louis Association, for the encouragement and advancement of agriculture, the views herein expressed, as questions worthy of consideration.

The subject is equally interesting to rail-road companies in all sections of the country. The Catalpa will grow large enough for rail ties in 15 or 20 years at farthest. If planted in regular order, in five years the trees will be large enough to attach wires to the trees, thereby making the most durable, as well as the most economical fencing to keep off cattle and horses, and thereby avoiding accidents which cause such destruction of human life. With great respect,

Your Ob't. Servant,

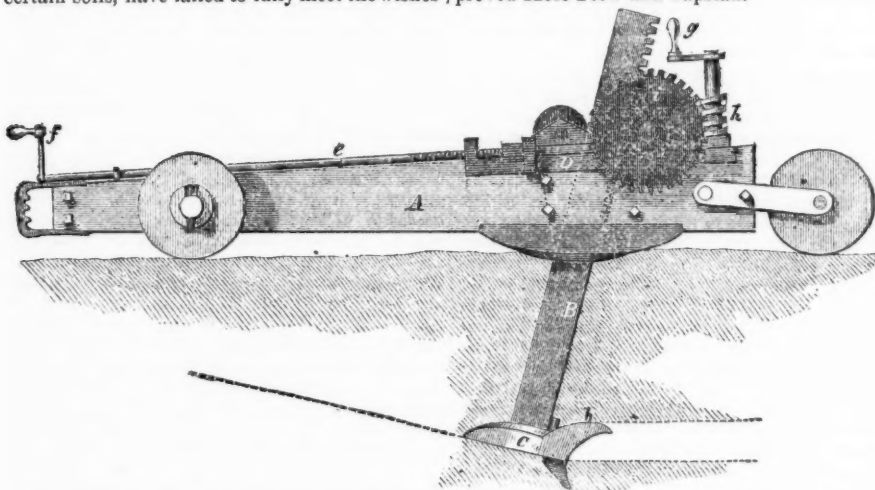
JNO. S. STEVENSON.

Under-draining with the Mole Plow— Public Trial.

The recent improvements in the Mole Plow are destined to work a wonderful revolution in the agriculture of the Prairie States. The mole plow is not a new invention, they were used in England more than fifty years ago: but the use of the mole plow in England, as well as more recent trials with it in this country on certain soils, have failed to fully meet the wishes

of the farmers as a cheap and efficient method of under-draining, owing to the liability of the drains to become filled for the want of some device or attachment to close up the opening made by the cutter in its passage immediately above the drain.

In the April number of the *Valley Farmer*, we gave an illustration of Hammond's Improved Mole Plow and Capstan.



The most important improvement in this machine over all others that we have seen, and for which a patent has recently been granted to Mr. Hammond, consists in the peculiar form given to the upper side of the heel of the mole by which the opening made by the cutter or standard to the plow is firmly closed, leaving the arch of the drain as compact as the sides or any other portion of it. This device is shown at *b* in the accompanying cut. This projection at the heel of the bar is as wide as the mole, running to a point at the rear end; the upper side of this projection being scooped out leaving it considerably concave from the heel of the cutter to the point, by which, in the progress of the plow, the clay is firmly pressed into the arch of the drain. Since the granting of this patent numerous devices have been patented with the view to secure this desirable result, without infringing the Hammond patent, but as no other form but a concave can fully secure this end we can hardly see how they can be successful. Another valuable improvement has been made by the same patentee, which was not illustrated in our former cut. With this improvement, by simply turning the crank seen at the forward end of the beam of the plow, which acts upon a screw, and thus throwing the mole forward and

the point upwards it is readily run out of the ground at the end of the drain, which with other machines requires to be dug out. By turning the screw and throwing the bar backwards it is made to enter the ground, when desired, and also save the labor of digging. A third patent has been granted for the attachment of a "fin" seen at the lower side of the mole at *b*; this merely leaves a cut in the bottom of the drain giving a greater surface and affording more free ingress to the water. Another improvement has been made in the capstan, which consists of a very simple arrangement for drawing the anchors out of the ground when the team is hitched on to remove it for the extension of the drain.

On the 12th of April there was a trial of this machine on the farm of the proprietor of this journal, near St. Louis. A number of the neighboring farmers were present, and after examining the drain in several places along its passage they expressed perfect satisfaction at the perfection of the work. Several sections of the drain were cut out and dried, exhibiting the arch which was so firmly closed that it would break at any other point as readily as it would where it had been opened by the cutter bar.

Where there is a tenacious clay sub-soil we

think land may be drained with this machine at a comparatively small cost, which in a series of years would add to the aggregate value of the crops cultivated, at least fifty per cent. With the mole plow almost every farmer may satisfy himself in regard to the benefits of under-draining, whereas the facilities for tile-draining are at present accessible to but few.

We copy below, from the *Ohio Cultivator*, a statement showing the comparative cost of the two modes of draining, by a correspondent who appears to be familiar with the subject:

"MOLE PLOW AND TILE DRAINS.—I renounce all preface and come to the point at once, viz: To compare mole drains with tile, open ditches, etc., as promised in my letter in *Cultivator* of January 15th.

Supposed cost 2,000 rods mole drains:	
Cost of plow or ditcher,	\$130
Interest on same 1 year at 10 per ct.	13
Wear and tear, say	30—\$173
2 yokes oxen 20 days at \$3 per day,	60
2 hands same time at \$1 per day,	40— 100
	\$273
Deduct worth of machine,	\$100
	\$173

Cost per rod of drain complete, 84 cents.

This estimate is for this latitude. Freight added to any point in this State, would add but a trifle per rod to cost. Further, the estimated amount per day (100 rods) is low; our patentees say, 140 to 150 rods per day. Hands and team \$4 per day, which is more than cost to any farmer. We call the whole scale very liberal. We notice a late writer from Highland county says, "the ditch can be made for five cents per rod," yet "P.T." of the same county says, in last number, he does not wish to pay twenty-five cents per rod for a drain, etc. I should much like to see his figures for said cost.

Let us look at the cost of two hundred rods of drain tile:

Cost of tile, 3 inch, which is but half size, as compared with mole, 35 cts. per rod,	\$70
Cost of digging and filling same, 3 feet deep, 25 cts. per rod,	50
Cost of laying same, 5 cts. per rod,	10
	\$130

Cost per rod, drain complete, 65 cents.

To this should be added an additional per cent. for worthless and broken tile, of which quite a number would be found in 2,000 rods of same. But as we are not aiming at entire accuracy—only approximating for others to improve upon—we pass this item. The tile cannot be delivered here for our estimate. The calculated cost of digging, laying, and filling up, I suppose would be fully 30 cents per rod. If this is too high, I bear correction from those who know.—Let us have the figures.* As no work of this kind has been done here per rod, I do not hold this entirely responsible for correctness. Cost of 2,090 rods open drain, same depth, 25 cts. per rod. Thinking we have carried these figures far enough without specifying timber (which I do not think would fall far short of the estimate for

tile, as above,) I will now recapitulate and compare:

Mole plow drains cost per rod, 84 cents.

Tile " " " 65 " 8 times more.

Open drains cost per rod 25 cts. 3 times more.

I admit that the tile well laid, are without doubt the best, all things considered, but I do not admit that they are most economical, or best for all to employ for drainage, mainly for this reason: Tile manufactories are few and far between. Freight on the same is very expensive, so that a railroad trip will double first cost. For this reason the cost places them beyond reach of a great majority of our farmers. Now, on the other hand, mole plows can be obtained by all, at a small expense—any farmer can use them—completing his ditch at once, and can within thirty days sufficiently ditch a moderate sized farm for all this year's necessary purposes.

A large breadth of soil can thus be immediately benefited, more than sufficient to repay all expenses on any soil (wet or dry) the present or first year. But to drain the same breadth with tile will of necessity (even if accessible and can be afforded) consume several years to complete. For this reason I wish to urge upon all the necessity of mole drains. I mean all who are cultivating soils that are underlaid with a stiff clay sub-soil (and of this class, doubtless, a great majority of Ohio farmers are included,) even if tile be substituted within six or ten years.

That mole drains will not crumble or fill up within two or three years, has been practically demonstrated in this county; and if good this length of time, why not continue so for six or ten years to come? I am well aware that many wise heads tell you, they will not last, and that friend Klippart, of the State Board, has told us that in Great Britain, Prussia, France, etc., mole plows were used and abandoned forty years since, and have now given place to tile.—Such is undoubtedly the fact, still this does not demonstrate that mole drains will not last here. The countries spoken of may not possess similar advantages of sub-soil and climate with us, and from a geological survey of Great Britain before me, I am satisfied the comparison does not justify such conclusions. Experience has often been opposed to theory. Theory introduces a hypothesis frequently which experience overthrows. By experience we *know*, by theory we only suppose. Farmers, try the Mole Plow—make your drains with the same, not less than 3½, and if 4 feet all the better. Experience will demonstrate its usefulness and economy, even if you conclude to lay tiles. Try them both. Tiles must be well laid or they will fill up, as "P. T." says mole drains do in Highland.

But I must close, as this is now too long, and in conclusion let me say to every farmer that owns the soil in Ohio, Under-drain and commence now. The sooner you begin, the sooner you reap the benefit. If you don't like mole drains, and can afford tile, use tile; if neither of these—wood, if you have an abundance and to spare.

But last of all, I mention open drains as the most objectionable, for various reasons. First,

your open ditches "use up" much good soil, that covered drains would save for your use.—They are constantly washing, and after filling up they are fruitful in distributing noxious weeds and grasses, and, finally, they are an eyesore to all good farmers. If from this hurried communication any one is benefited, or more correct facts and figures are adduced, from those better informed than myself, I shall be fully compensated and satisfied—to which I trust the intelligent *Cultivator* readers will respond, Amen!

Truly, yours, W.

London, Madison Co. Feb. 17, 1860.

Messrs. PLANT & BRO. 14 N. Main Street, St. Louis, are agents for the above Mole Plow, and for selling Rights.

SETTING FENCE POSTS.

As timber becomes more scarce, rail fences are less common; and when wood is employed as a fencing material, the post and board fence is most usually adopted. Various methods, of late, have been employed to render posts more durable, such as filling the pores of the wood with a certain solution calculated to retard decay, &c.; but, from experience, great advantage has been discovered in setting the posts small or top end down. Most kinds of timber thus set, are found to last two or three times as long as when set as it grew. The explanation of this problem is made clear on examining the structure of the sap vessels in the wood with a good microscope, and observing the peculiar arrangement of the little valves that are formed in the pores of the wood.

One of the most conclusive proofs of the advantage of inverting the timber used for posts, is detailed by a correspondent in the *Genesee Farmer*. He says:

"About thirty years ago, I, to test the thing, split two bar posts, side by side, out of a chestnut log. They were eight feet long, eight inches wide, and three inches thick. One I set butt down, the other top down. At the end of ten years, the one set butt down was rotted off, and I re-set it in the same hole. At the end of six years, it was rotted off again, and I put in a new one. The other lasted four years longer, when it got split in two and I took it out, and it was about two-thirds rotted off. Sixteen years ago, I set six pairs of bar posts, all split out of the butt cut of the same white-oak log. One pair I set butt down; another pair, one, butt down, and the other, top down; the others top down. Four years ago, those set butt down were all rotted off, and had to be replaced by new ones. This summer, I had occasion to re-set those that were set top down. I found them all sound enough to re-set. My experiments

have convinced me that the best way is to set them top down."

These are the most satisfactory and conclusive experiments that we have met with. Posts from the same tree and the same cut, are set side by side, some tops down and others tops up. There is another important fact here included in the trial. Not only are the experiments made at different times, but of different kinds of wood; and both equally conclusive in favor of inverting timber for fence posts.

THE FARMER ON HIS FEET.

NUMBER TWO.

Science Not Opposed to Common Sense.

EDS. VALLEY FARMER:—People talk a great deal about exercising common sense, without ever taking the trouble to inquire into what they mean by the term. I take it for granted, however, that they mean something active—something that always produces an evidence of its own existence, and not merely an inert harmony of the mental faculties. We want the affirmative, not the negative of common sense. If a man acts we want to see skill and wisdom as the fruit of his action; and at once we credit him with common sense. If he talks we want to hear an evidence of prudence and practical knowledge, and our response is the same—we credit him with common sense. *He is our type of common sense.*

There is, however, a distinct difference between common sense and genius. *Genius* is a peculiar endowment of some of the mental faculties—common sense is an active harmony of all the faculties. Common sense is the solid masonry of the temple—genius is its burnished spire. The one opens its doors to its million votaries—the other lets down its ladder to the chosen few. The one is mental hygeian—the other intellectual fever. Normal against the abnormal; conservatism against upheaval; the out-circled, undulating plain, contrasted with the cloud-kissed summit. Almost antipodes to the same family; the one worships fame—the other husbands the good things of earth.

But I am on extremes, and will see to this before my last line. They often meet half-way, right cozy, congenial fellows, laying the foundation for labor's vatican—the infallible propaganda of the locomotive and larder—of harvesters and hay and hominy—of fat cattle and cotton gins—of crinoline and washing machines. The world will eat and drink and clothe itself—and right here is the feat-ground of common sense. *But genius would rather be excused.*

The kettle puffed and sang, and common sense—always the more practical the more it achieves—turned it into the steam engine. The eagle floated in the air in the calm and in the storm, and common sense saw the feat, and it reappeared in the merchant ship, walking the ocean like a thing of life! The worm spun its cocoon, the spider its net, and common sense saw the revelation, giving in lieu thereof the

spindle, the loom, and osnaburghs. Thus the work began—thus it goes on. The rugged has become smooth—the crooked straight; tents have turned out to be cities; hand-barrows have grown to be locomotives; haughty Despots have become unostentatious Presidents—*jus divinum* quakes before the “rights of the people;” superstition and prejudice yield to reason.

But is common sense done learning? done achieving? No, verily. When science sleeps, common sense may sleep, and not till then. As long as science shall explore and lay the foundation, so long will common sense follow and build up. There are Bacons and Newtons—Arkwrights and Fultons—Franklins and Morses—Whitnies and “Model Farmers,” yet to be born, and yet to discover and achieve; and common sense has yet much to practice—much to perfect—and more to gain. *In all things it aims at success.*

“I see all you know,” says science. “I know all you see,” replies common sense. This is their relation, or ought to be. “I am standing on the mountain, casting jewels in the air,” says science. “I am waiting in the valley to catch them as they fall,” says common sense. Thus the world moves, both leading and following, both giving and receiving—the world eking honors through labor.

Common sense, prudence, discretion—if any one is in a situation to value these and practice them, that one is the farmer. Removed from the fitful life in the city—from its feverish combination—from its protean jimmerjacks, and comparatively without rivalry, he is left to his own thoughts—left to reflect, conclude, execute. These are peerless privileges, and he is expected to avail himself of them. Time and opportunity are all a wise man needs to learn his interest and mature his judgment. Wisdom lives in practical knowledge. Does any man act wisely by neglecting to accumulate knowledge? by neglecting to learn as much as he can of the art, science and best manner of conducting the business he calls *his*, appropriately? There is a best way to farm; there is facility in farming—time and capital to be economized; there is profit as well as rational pleasure to be derived from it. No one will say that any farmer has reached the *ne plus ultra* in the art of farming. It is all the time improving in the same ratio that it brings science to its aid! The flexible flail drove out the bludgeon, and Manny has driven out the flexible flail. The spade once turned the soil—then the old Carey vexed it with a drag—now the Peoria puts it over like a charm. Once the pestle mashed and the rough stone triturated its quart an hour—now steam drives the shaft, and our mills turn out the barrels by the hundreds per day. Thus art goes on under the nuptials of science and common sense. For the ceremonials of this wedding, the farmer must go to agricultural literature. This needs not stop his plow, but it will assuredly improve his head. Does he demur at this? Does his eyes refuse the light? The cunning of his hand say “No more!” *To buy an old Carey now would prove the man a fool.*

But after all the farmer must be the practical

man. The more science does to aid, the more will he have to practice. Science may suggest, but he must apply. His facilities may be enlarged—so must his knowledge. Labor is his mission—it should be his honor. Knowledge is his privilege—it should be his pride.

Led by science—guided by common sense—fortified by Labor’s strong, enduring arm, the farmer has nothing to fear, but all to hope—nothing to lose, but all to gain. Science has done no more for grandmother’s wheel than it has for grandfather’s reap-hook.

N. M. H——G.

POTATO ROT.

EDS. VALLEY FARMER:—I see that the Potato Rot is still on the tapis as an “open question,” drifting, however, to the conclusion that the weather is the mischief-doer. I believe the weather is no late invention, but pretty old—that it still holds on to its ancient habits, like Mother-Church. But the potato rot is of late occurrence. I believe the weather should receive its just acquittal, or, at least, that “public opinion” should be extenuating until further investigation is had upon the subject. The weather is, it seems to me, too old to be guilty of such a naughty trick. It didn’t do so, “long, long ago.”

To aid investigation, I will merely drop a hint: the foundation of my belief on the subject, however. I have never experienced the rot in my potato culture; hence have nothing but the law of analogy to direct me in an investigation. I, therefore, confine myself to a hint.

There are two well established facts, which it is proper to name in this connection. It is a fact, that, as a general custom, especially in countries where the rot has been greatest, *small* potatoes have been used as seeders; and it is another fact, that *small* potatoes are less matured constitutionally than large ones. I learn this from the law of analogy. A half-grown peach is not, constitutionally, a peach. It is embryotic. Its vitality to propagate from has not arrived. Even grant that it will, by proper care, germinate, who will contend that such a plant has the law of vitality in it complete?—Repeat this process through a series of years, and the law of vitality, by a gradual ratio, becomes weaker and weaker, until constitutional weakness is reached. Apply this to the potato, and you have my hint—*there is no doubt of such a result in the animal kingdom.*

The investigator should remember that small potatoes, from early planting, may be greatly immatured by reason of drought; suddenly checking their growth; and the frost-blight may do the same thing with those of late planting. Don’t laugh at this negative language.

I believe the proper premises are here named to start our investigations upon, if we ever arrive at the real cause of the potato rot. And if thus found, the remedy is very simple—*plant the best developed potatoes.*

N. M. HARDING.

Rock Hill, St. Louis Co. Mo.

A STATE BOARD OF AGRICULTURE FOR MISSOURI.

EDS. VALLEY FARMER:—Having recently learned, and I must say with some surprise, that the State of Missouri has no State Board of Agriculture, and no regularly-organized State Agricultural Society, and feeling a lively interest not only in the general welfare of agricultural pursuits in the West, but also in the same advancement of "Broad Missouri," and hoping that at no very remote date your rich and fertile State will rank among the foremost of the Union in the advancement of agricultural science, and all the arts which alone can make a State truly great—I would respectfully suggest that, to further this object, agricultural societies should be formed by every County; but, above all, should the Legislature of your State, and all prominent agriculturists foster and cherish, as one of the dearest institutions of a great and growing State, a State Agricultural Society.

I hope it may not be construed into egotism if I offer some remarks through the really meritorious columns of the *Valley Farmer*, with regard to the formation of a State Agricultural Society for your State, and I may be allowed to say here, that, being somewhat acquainted with the practical workings of our own State institution, and having the honor to have proposed substantially the representative system now adopted by Illinois, for the election of officers, I would recommend for the thoughtful consideration of your planters and farmers, the following plan, modified according to the better judgment of your own agriculturists and your peculiar local wants:

Each County Agricultural Society sends three delegates—the President of such institutions to be *ex officio* one of the three. These delegates choose (and we suggest) on the afternoon of the third day, on the Fair Grounds of the State Agricultural Society, one Vice President from each Congressional District, and a Secretary. We find that one Secretary, who shall devote his whole time to the institution, can do all the work of a Corresponding and Recording Secretary. Elect also a Treasurer, who, together with the last ex-President, form the Executive Board, locate Fair, &c.

The officers elect to serve two years each, and in case of a vacancy occurring at or near the time of holding a State Fair, an election may be held by order of the President and Secretary, or at any other time an officer may be appointed—a majority of the Board concurring.

The delegates could also, in a great measure, act as awarding committees, and they could recommend each other for such committees as would best suit their taste, inclination and capacity, and for which they would be best fitted, so as to get the proper man for the proper place. Let your institution be itinerant—looking more to the good to be accomplished than to the accumulation of funds. Let your premiums be liberal for everything *useful*, and as liberal as you can afford for things ornamental.

Essays on the most important subjects of agriculture; reports of awarding committees;

actions of respective county societies, reported by their secretaries; agricultural statistics, addresses, &c., form the best materials for a volume of Transactions, to be published under the sanction of the Legislature, and at the expense of the State, biennially.

With regard to the itinerancy of a State society, allow me to add, that our State Fair at Centralia was, perhaps, the most successful of any yet held, in point of good being accomplished, while, in a pecuniary point of view, it might be called a failure.

If these thoughts should suggest or lead to the formation of a State Agricultural Society for Missouri, it would be extremely gratifying to
OLD FIRKIN.

Oregon, Ills.

THE NEW POWER.—Ever since Captain Ericsson proposed to construct a caloric engine, that would be powerful, economical and safe, for a motive power, we have felt a great interest in his success. The trial, a few years ago, of his great engine for heavy sea vessels, was not a failure, by any means. It proved to a certainty that he had discovered or invented a plan for the application of a new motive power. It did not, however, drive a heavy vessel with sufficient speed. Since then, he has applied it to smaller purposes, and proved it beyond a doubt to be the best, cheapest, and only perfectly safe power for all purposes less than seven or eight horse power.

This new power is coming into use fast, instead of steam, horse, or hand power, for the thousand uses of small manufactories, and the lifting, drawing and turning, in many places where a cheap and safe power is needed. Already in Massachusetts, New York, Pennsylvania, and Sweden, there are several large manufacturing establishments wholly devoted to the construction of the caloric engines, and find it difficult to keep pace with the growing call for this new motive power. It is applied to a great number of uses, such as, pumping water, raising goods on ship-board and in warehouses, driving corn mills, cotton gins, sugar mills, turning lathes, circular saws, light planing machines, glass cutting wheels, printing presses, paint mills, fans, sewing machines, grinding cutlery, tools, &c.

It costs but a mere trifle to run the engine when once put up; requires but little skill; is not liable to get out of order; and is perfectly safe: never explodes. It will yet be of great benefit to agriculture, for threshing, grinding, sawing, cutting, churning, shelling, and driving every fixed agricultural machine.

We regard this as one of the greatest inventions of any age. We see not but that it may yet draw the plow, the rail-car, and common carriage.

CUT WORMS—TOBACCO.—Every farmer knows that corn, planted on clover or blue-grass sod, is liable to be destroyed by the cut worm. On ground previously in grass, it very frequently occurs that farmers furrow out entire fields that have been once planted, and plant a second time

—the young corn not being safe until the hot weather of June destroys the enemy.

It is said that seed corn steeped in tobacco water so impregnates the grain and the first leaves that not a worm will touch it. We have never tried tobacco for this purpose, but we know of no better use to which it can be applied, and the experiment is worth trying by all who intend planting corn on ground previously in sward or clover. Try it, and report for the benefit of others.

NEW YORK STATE AGRICULTURAL COLLEGE.

The course of instruction determined upon by the trustees of this institution is to extend over three years, on the completion of which a special degree and diploma will be conferred. The year is divided into summer and winter terms—the former commencing in April, the latter in December. No student under sixteen years of age will be received. The annual charges for tuition, with board, lodging, lights and fuel, is \$200.

During the first or Freshman year the student will enter into the study of grammar, arithmetic, algebra, geometry, and the rudiments of chemistry, mineralogy, geology and botany; while in the field he will learn to plow, spade, plant and manage crops, and the dairy. During the winter months he will be instructed in making and preserving manures, feeding animals, grafting, &c.

The second year he will enter upon the higher branches of mathematics, chemistry and kindred sciences, together with surveys, building roads, &c.; then he will enter into the study of comparative anatomy, vegetable physiology and drawing. His field studies will now also be extended by land draining, fencing, planting trees, managing teams and wagons, entering upon excursions to collect specimens of minerals and plants. In winter he takes lessons in breaking and training horses, in getting out timber, fattening and breeding stock, besides attends to the various branches of in-door studies. Practically, in the shop and field, and theoretically, by means of models and drawings in the school-room, he learns the mechanical principles involved in the construction of every variety of farm implement and machine.

The third year the student makes himself acquainted with the laws of the State, relating to contracts, highways and fences, farm book-keeping and the public branches of learning.—In the laboratory he will analyze the earths and metals, and investigate the mysteries of electricity and magnetism. He will also learn to draw landscapes, animals and architectural plans, and conclude with a general review of his studies.

This institution has not yet gone into operation, but we here furnish our readers the routine of studies, that they may be enabled to compare the advantages of the student at such a school as this, with those enjoyed by themselves in their youthful days, that they may form some small idea of the vast benefits that would flow

to their children, educated at such an institution, in after life, as well as to the country at large.

We might enlarge upon the benefits that must necessarily flow from such a course of physical training, while the youth is going through with the ordinary branches taught in the schools and colleges of the country; of the comparative exemption from the temptations and vices of the colleges generally throughout the land; and of the habits of industry that may be acquired, and of the perfect preparation to enter upon the active duties of life.

But these, it seems to us, are clear to every reflecting mind, and we hope that the success that will attend this, and similar institutions, now contemplated in various sections of the Union, will result in the establishment of agricultural colleges in every State, and especially in the great West where agriculture is the leading occupation of the people.

LETTERS TO YOUNG FARMERS.

NUMBER THREE.

Young Men of the Farm: We feel moved in this letter to address you on your preparation for your work. We take it for granted, that you have resolved to be farmers for life; that the farm shall be your home, your field of action, your scene of usefulness and duty. We take it for granted that you have determined to serve yourselves, your families, your country and your race, in devotion to your noble calling.—Having yet your minds upon this, your next thought is your preparation for your profession. Let me not be misunderstood. Your calling is a profession; not exactly a "learned profession," for it is both learned and practical. It does not deal in the roots of Greek and Latin, but in roots of a more vital and nourishing sort. It does not depend upon the metaphysics of the books, but upon the physics of the field. Its learning is not of history, philosophy and philology, but of the sciences of soils, plants and animals. It is a profession in which accurate knowledge and exact information is especially needed; in which real skill is of immense service; in which trained powers, cultivated mind, large intelligence, vigorous will, and earnest purpose, play as grand a part as in any other profession. It is a profession in which real scholarship can use its attainments as well as elsewhere; upon which the best intelligence of the world is now being concentrated; in which mind shows its grand superiority over matter; in which knowledge wins some of its noblest victories; in which education exercises its finest sway. There is no profession in which cultivated mind exercises its supremacy in more royal and loyal legitimacy than in agricultural pursuits; none in which its labors pay a better percentage; none in which it enjoys a richer reward of goods and honors. Farming is, therefore, a profession, stamped with a kind of natural nobility, which makes it a pursuit to which cultivated mind as naturally tends as water to its level. Half the best scholars, civilians and divines of cities would be farmers at once, if they had the requisite skill and means. The

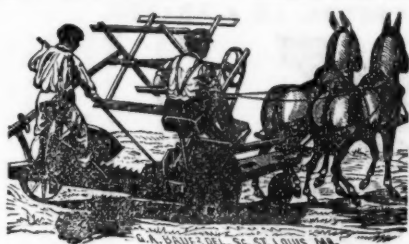
cultivated mind of cities is longing for country homes and pursuits. It claims companionship with the healthful and beautiful forms and growths of the farm. Believe, therefore, that your profession is honorable, and requires a thorough preparation for its duties. Time was when muscle was supposed to be about the only thing needful for farming; but now mind is understood to be still more useful. It is mind and not muscle that wins the victory. But yet the truth is, mind and muscle must work together. Muscle is the instrument of mind.

We hold, therefore, that the first thing for a farmer is to have a well formed and healthy body. This is the every-day servant of his mind. This is the working instrument for the success of all his plans. This is the lever with which he turns his world. This is the key with which he unlocks every treasury. This is the pen with which he writes the story of his life. This is the sword with which he wins his victories. It a grand thing to have a body full of robust health, built up of stalwart bones, strung with hardy muscles, nourished with pure, healthy blood. Such a body is the nursery of a true manhood, and ought to be the home of a noble mind. To secure it, the young farmer should acquaint himself with the human anatomy and physiology, with the conditions of health, with the laws by which it exists and is preserved. We cannot enjoy health on any other condition than by obedience to its laws. We must be temperate, cleanly and regular in our habits; we must eat simple and nourishing food; we must have enough of cheerful and active exercise; we must have enough quiet and invigorating sleep; we must avoid excesses; we must eschew stimulants; we must be well clothed, and breathe always the purest air our climate affords. Health is greatly in our own hands; strength we can cultivate as we can a radish or a rose. Young men ought to be amateur students of physiology. They should study the best works on health; take always some journal of health; put into practice their information, and so grow up into lordly forms of might and manhood.

The second vitally important item of preparation with young farmers, is the culture of their minds. The time is past when stupidity and a farmer meant the same thing. Every farmer now comes in competition with the best intelligence of the age, with machinery, skill and experience. Farming is coming to be a science. Soils are analyzed before sown to, to determine their constituent elements. Stock and grain are raised to order. Farming implements are made upon mathematical principles. The fields are fertilized by chemical processes, and irrigated by hydraulics. Almost every science brings its tribute of learning to the farmer's profession, and the colleges are establishing chairs of agricultural scholarship. The papers teem with the literature of the garden and field, and the tendency of the age indicates a rapid increase of knowledge in every department of human industry. The farmer cannot, must not be behind the intelligence and spirit of his time. Agriculture is the basis of all human activity.

The world lives at the farmer's crib. All the streams of human pursuit and success have their headsprings in the farm. It becomes a necessity—therefore, intelligence should rule at the fountains of our worldly life. The young farmer must not nurse his father's prejudices against learning and improvement. He must not hug the old plow and sickle as relics of an old dynasty of glory. He must not think that progress is ruin. He must not think that learning and laziness mean the same thing. He must not associate soft hands and kid gloves with agricultural scholarship. Farming is both a trade and a profession; it is work and study united; it is books and tools in fellowship; it is invention and experiment going out hand in hand to till the field and feed the world. The young farmer, therefore, must get much of his education on the farm. He must study in the fields as well as in the school. By the side of his corn and cattle, in converse with his fruits and herds he must apply and perfect his knowledge. The soil must be his chemical laboratory. True, he must study books; he must be a scholar in a general sense. He has got to be a man, and take a man's place. He has got to be a citizen, and do the duties of town, county, state and country. He must be a young Cincinnatus, ready to leave the plow for the chair of state, if need be. To be an American farmer is no mean thing: it is to be the equal of princes and kings; the peer of governors and presidents. It is to hold the elector's sceptre in one hand and the bread of the nation in the other. Let the young farmers of the country realize this and take to their books and their fields in earnest. And let the fathers heed the urgent appeals made to them to establish agricultural schools, take papers, and collect libraries, that shall help their sons to prepare for their responsible places and duties. *

THE SKY AN INDICATOR OF THE WEATHER.—The colors of the sky at particular times afford wonderful good guidance. Not only does a ruddy sunset presage fair weather, and a ruddy sunrise bad weather, but there are other tints which speak with equal clearness and accuracy. A bright yellow sky in the evening indicates wind; a pale yellow, wet; and a natural gray color constitutes a favorable sign in the evening, and unfavorable in the morning. The clouds again are full of meaning in themselves. If their forms are soft, undefined, and feathery, the weather will be fine; if the edges are hard, sharp, definite, it will be foul. Generally speaking, any deep, unusual hues betoken wind and rain; while the more quiet and delicate tints bespeak fair weather. These are simple maxims; and yet not so simple but that the board of trade has thought fit to publish them for the use of seafaring men.



A REAPER.

We would call the attention of farmers to a few considerations, giving some views in regard to a Reaping Machine. The most laborious part of farming, has always consisted in cutting grain and grass, and much time and skill have been expended in attempts to lessen the labor and reduce the cost of this branch of husbandry by substituting horse power for human muscle; and the reaper and mower, for the sickle and scythe. Several obstacles have been presented, and have prevented, to a considerable extent, the introduction and use of many of such as the inventive genius of our countrymen have produced. The difficulty has been, the construction of a machine that would work well in all places in heavy and light crops, and leave the fields evenly and well shorn of their summer burden, and, at the same time, be *simple and durable* in its construction, not likely to get out of order, and easily managed by the most inexperienced person. For the last twenty-five years, considerable attention has been devoted to, and large sums of money expended for the accomplishment of so great a desideratum.

Of the large number of machines before the public, the "J. H. MANN" machine continues to stand the most prominent in simplicity of construction and in facility of management, by its perfect adaptation to *uneven* ground; by its means of adjustability to various heights of cutting with a simple lever, which enables the driver, while the machine is in full motion, to vary the height of cut at pleasure, not requiring him to stop and re-adjust the machine when coming to spots where the grain is short or lodged; also, avoiding the necessity of going around stumps or stones, or other obstructions, as the cutter bar can be raised to pass over any obstacle that is not higher than the axle—which is considered by all who use the machine, as a perfect and indispensable feature. Another essential improvement is in the combination of the Reach and Tongue with a castor or pivot wheel, in such a manner as to *remove the weight from the horses' necks*, and leave the tongue flexible like

that of a wagon, while the reach or cutter bar may be held rigid, or allowed to be flexible as required. All side draft against the team is entirely avoided, and is of light draft for two horses, cutting five feet wide.

The driver's seat is placed over the driving wheel, the weight of the driver increasing the power of the wheel to operate the machinery; also, the seat being sufficiently elevated to give a commanding view of the entire operation of the machine.

The Forker occupies a position on that side of the machine next to the standing grain, and with a fork is enabled to handle the cut grain in the most skillful manner, preventing its entanglement and clogging; collects it to the side of the platform against the gathering wing, and with facility forks it off in compact gavels to the rear of the platform in the most suitable condition for binding, and leaving sufficient track for the team in making a succeeding cut.

The form of this machine for *strength* is peculiar to itself. The main frame is of a triangular shape, the cutter bar forming one side of the triangle, both ends of which are firmly bolted to the front end of the rails, forming the other two sides, thereby securing permanency and stability to the cutting apparatus. This frame possesses the still further advantage of giving efficient support to the grain platform and to the forker's position, also affording a peculiar and important advantage to the arrangement of the wheel next to the standing grain. By the diagonal form given to that side of the frame, the wheel is placed outside of the frame, and yet sufficiently in from the standing grain so as to entirely avoid running upon it and of being clogged. By the brace forming the side next to the standing grain, the outer end of the cutter bar is rigidly held to its place, and at any required elevation from the ground. This form of frame also possesses greater strength with less weight than that of any other construction.

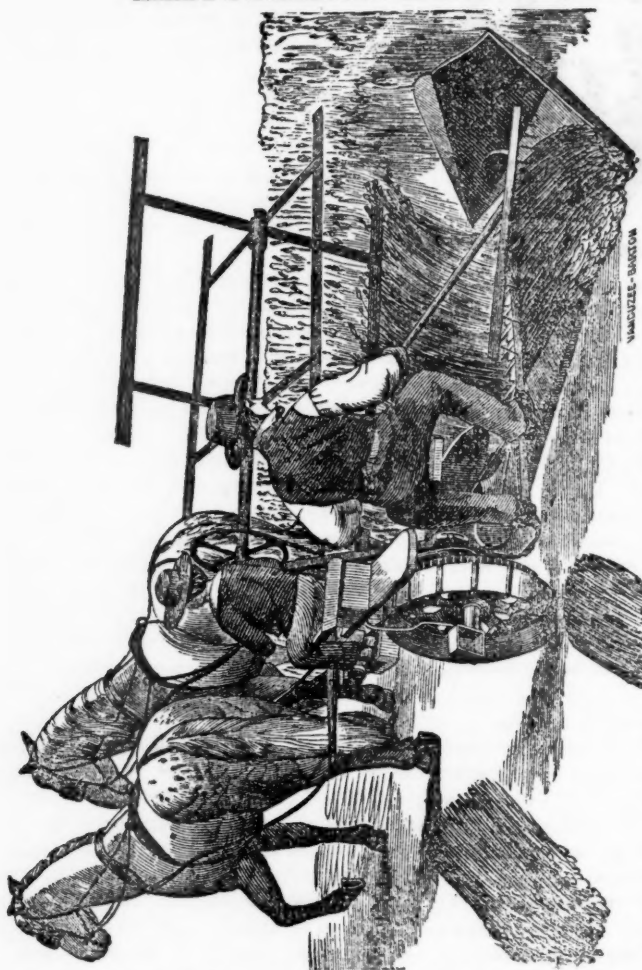
The sickle and sickle guards (which being the cutting part are vital elements of a reaper) are strongly and substantially built. The sickles are made of the best cast steel. The guards are strong and not likely to bend.

This machine is finished in a superior manner.

Two sizes of the above machine are made by the manufacturers, one, five feet, and the other six feet.

Farmers would do well to send their orders to Messrs. Kingslands & Ferguson, manufacturers, St. Louis.

KIRBY'S AMERICAN HARVESTER, AS A REAPER.



Last month, we gave illustrations, with a general description of Kirby's Patent Combined Reaper and Mower. The above cut represents the same machine as a *Reaper* as it appears in operation in the field. Its advantages, and also its operation and construction, we give in the language of the manufacturers as follows:

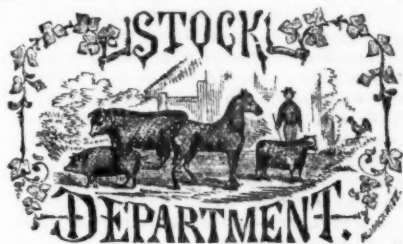
"One of the distinctive characteristics claimed for the Kirby Machine is, that it is a *perfect Combined Machine*. While there are many good mowers which are not good reapers, and many good reapers that are not good mowers, there are very few successful *combined machines*. Most farmers are not able to keep two machines, one for mowing and one for reaping, consequently the machine that will successfully perform both is a desideratum. With such a machine the farmer purchases a perfect reaper for only \$25; and if he has only one-fifth as much grain to cut as he has of grass, he can afford to buy a combined machine. Aside from the saving of labor in reaping by machinery, there is the further advantage of

being able to gather the crop at the *right time*, whether laborers are scarce or plenty. The same machine can also be used to great advantage in gathering clover and grass seed. The following description of the American Harvester as a Reaper, will enable the reader to understand its construction and operation:

'All of the Kirby machines are combined machines, and the Reaper is the same as the Mower, with the addition of the reel, platform and raker's seat; and by merely bolting these to the Mower (which is but a moment's work), you have a complete Reaper. The cutters, in reaping, can be set to cut at any height, thus adapting to all kinds of grain, and to gathering clover and grass-seed. The grain is delivered in well-formed gavels at the side of the machine, and entirely out of its way in the next swath.

'The raker's position is peculiar, and enables him to do his work with ease, he being placed at the side of the machine facing obliquely the uncut grain, and in the centre of the motion of the rake, so that by an easy quarter-turn motion, or circular sweep of the rake, he delivers the grain in gavels at the side of the machine. This position also enables him to control the grain as well without the reel as with one, and is the *only position* with which a machine can be successfully worked *without a reel*. In this position a boy can rake off all day with ease.'

The manufacturers are also making a smaller combined machine, which they call the "Clipper," and is designed for *small farms and lawns*, which like the "American" has given universal satisfaction, in fact has been used successfully with one horse. In our next number we shall give an illustration and description of the machine as a *Mower*.



An Interesting Letter; Treatment of Swine.

ILLINOIS STATE HOSPITAL FOR THE INSANE,
JACKSONVILLE, April 23d, 1860.

EDS. VALLEY FARMER: For some years we have been in the regular receipt of the *Valley Farmer*, and have as yet only made you the return of an acknowledgement in our printed biennial report. The April number now lies before me; its cheerful cover alone being enough to make one get in love with farming. Whenever I look on the tasteful vignette, and catch the spirit of the airy rural scene which the delineator has conceived, I am always disposed, like the moribund Falstaff, to "babble o' green fields."

Besides the aid which we derive from the *Farm-er*, in the cultivation of the farm of the institution, it circulates among our convalescent patients, most of whom are connected with the farming interest, giving many of them a taste, for the first time in their lives, of the benefit of such reading; thus, as we hope, adding somewhat to the list of your future subscribers.

In the establishment of this institution, one hundred and sixty acres of land were, by a timely provision, attached to it, now constituting an important auxiliary in its support. It has been brought to a comparatively high state of cultivation, and several successive committees of the State Agricultural Society have declared it the best cultivated farm of its size in the State. The last committee substantiated their declaration by the award of a gold medal, but as the token has never made its appearance in tangible form, I infer that it was either given in a constructive sense, or else the slight condition was intended that the recipient purchase it for himself! But let that pass.

I would like to tell you of our success in several branches of agriculture and horticulture, which favoring circumstances enable us to pursue to an advantage; but as my time does not admit of careful dissertations, nor your columns afford room to receive them if it did, I can only touch on one topic, and will take that which this particular time is making most interesting to us—the rearing of pigs.

Almost every hospital that I know of has its favorite breed of pigs; and we are no exception to this rule. This leads me on to tell a story of my friend, Dr. Stedman, for many years Superintendent of the City Hospital in the good old town of Boston. As the institution received the refuse among the sick, the maimed and the debauched of a large city,

the Doctor's practice in the lower surgical departments was by no means small. It was the Doctor's custom on Wednesday of every week to serve on his own table a roast pig when in season. It was, at the same time a regulation of the Board of Directors that one or more of their number should visit the institution regularly every week—purposely leaving the precise day unsettled, so that the Doctor should have no premonition of, and consequently no preparation for their visit. But, gradually, from this visit being from one of the Board only, and that quite desultorily, the Doctor found the whole Board regularly seated around his mahogany every Wednesday noon, attracted by the flavor of his roast pig: in short, he found his hospitalities quite overdone. There was, indeed, a delicacy about the Doctor's pig which the most practiced gourmand of them all had never known equalled, and the fattening process was much discussed before any one of them could make a formal demand for the secret. After the luxury had been enjoyed several weeks, one of them wished the Doctor to impart to the Board the manner by which such consummate success was reached. "Why," said the Doctor, hiding his face in his plate as he replied, "we don't waste anything here, and so we give the cast-off poultices from the surgical wards to the pigs!" As may well be supposed, the Doctor's guests were far less attentive for the future.

"But," said I to the Doctor, as he related the story, "do you really mean that such was the fact?"

"Fact," said he, "only *entre nous*, the poultice-fed pork went through the butcher's hands to feed the nobbs of the city, while my table pork was fed on as nice mush and milk as was ever stirred in a pot."

Our swine, which by the way have never revelled in either of the above delicacies, were, originally of the "Irish grazier" stock, but have been refined by successive crossings, till they closely resemble the Suffolks in fineness of contour, though capable of greater development than that deservedly favorite breed. They pass current in this part of our State as the "Hospital breed," which now proves their sufficient recommendation. We have, at this time of writing, a range of pens containing sixteen brood sows, some one or more of which are now daily giving us fine litters of pigs with a success so striking and uniform as to make the method worth recording, especially as it may be copied without expense. Everybody wondered much at Rarey's method of taming vicious horses, and the marvel appeared about as great, after it was ascertained, that he was only applying the plainest principles of common sense to the process; principles that had been abandoned so long that they were forgotten and revived by him to a wondering world as secrets. Mr. Rarey has simply taught us, that, in our dealings with the brute creation, we are forgetful that they have certain higher instincts, which we lose by not recognizing.

In the first place, the successful breeder of swine must remember that he is dealing with one of the most sagacious of quadrupeds; that

he is, when educated, almost as attached to persons as the dog, and as cleanly in his habits almost as the Guinea pig. His "swinish instincts" are more chargeable to his keeper, man, than to himself. We all remember the "learned pig," who so much astonished our boyhood by his feats; and the good manners of the pet pigs of the Sandwich Island ladies are proverbial among navigators. It must also be remembered that we know the pig only as an infant, as by our usage he is seldom allowed to reach hoghood. What would the standing of the human race be in the scale of intelligence, if we had no Keplers and Humboldts, but were obliged to judge by the performances of children over their spelling-books? It is not till the pig is two years old that he is at anything like maturity, and grows in intelligence much beyond that age. Now as the ability of the sow, as a successful mother, depends greatly on her intelligence, we cannot rely on that element while she is only a year or even eighteen months of age. She has a vague and ill-directed instinct in regard to her young, which is widely different from the education which I shall directly describe. Neither do I think the swine physically fit for breeding at the age at which that function is commonly allowed. While the bones are soft and the body only half developed, it can be no wonder that good breeds so rapidly degenerate, to say nothing of the prevalent abomination of "in-and-in breeding." None of the sows above alluded to are less than two years of age, and the boar is the same.

A month before their time, each sow is placed in a pen so completely separated that she can receive no annoyance from others. It is of course unnecessary to say that each pen is ample in size, fully protected from the weather, and at the same time thoroughly ventilated.—It should be so made that both bed and board shall be free from all excretory defilement, as they will be if the animal has a chance to do justice to herself. Our swine are at this period placed under the exclusive care of one individual, to whom they soon become evidently familiarized. He carries them their food, attends daily to the cleanliness of their pens, and is so much about them that they very soon manifest no disturbance at his presence, but on the contrary the most unmistakeable pleasure. The value of such treatment will be well understood by those who know how subject all animals in the parturient state are to be injured by influences which affect them little in their ordinary condition. The health and safety of the future litter will depend much on keeping the dam in a state of most undisturbed quiet a few weeks previous to parturition. Although some sows will be negligent and even vicious toward their young (and is this trait confined to swine alone?) yet, in the great majority of cases, where the young pigs are neglected or destroyed, the keeper has himself alone to blame. Her instincts have never been cultivated by her superior, man. It is not every man that is fit to take care of pigs. No individual should be trusted, certainly, about breeding sows, who is not fit to sit up alone with your

sick baby. You may set your ill-tempered or negligent man about anything else but this.—The man thus intrusted with the duty quickly becomes well known to his charge. They become accustomed to his presence, greet his coming with a grunt of expressive satisfaction, and allow him to change their bedding without the slightest disturbance. If he is mindful of his duty he will see that the animal has a clean bed, fresh water at frequent intervals—a most important article—and that no stale food is suffered to accumulate in the troughs, and especially that the fresh morning's breakfast is not added to the sour and defiled remnants of the last night's supper. Could you keep even a hog in humor by such an outrage as the last?

Three or four weeks of such treatment given to sows before the time of litter, will pay, if anything does in the whole line of husbandry. It costs nothing, except a little consideration for the comfort of these, our "poor relations;" and certainly a most abundant blessing comes in seeing your brood sows surrounded by their half score each of plump and well-bred piglets.

I have a favorite theory, which will bear introducing here, that if a decidedly bad man wants to make of himself a very good practical Christian, there is positively no better way to begin than to commence exercising the Christian graces on the dumb beasts about him; and swine are excellent practice in this exercise, because in commencing any ascent, it is always best to start from a level. If he is successful in his practice in this particular, he will be quite a passable Christian before he feels himself competent to do his duty to his fellow man.

I have said nothing about the treatment of breeding sows after littering, simply because the prior treatment above described puts the animal, both morally and physically into such good condition that she is amply able to take care of herself and all that Providence confides to her.

There are several other points of swine breeding, that I had in mind before I had commenced this letter, already too long, that I must omit. But I cannot close without a shot at one or two things, with which I have no patience.

The stupid proverb, that "it takes a bushel of corn to fatten a pig's tail," has curtailed and deformed these much abused animals, for I know not how many generations.

Surely Providence has not been so bountiful to them in the matter of ornament that they have any to spare; and why should the tail, so significant of the purity of blood and the physical condition of the animal, to say nothing of its decidedly decorative uses, be so summarily sacrificed, because some blockhead has conceived it to be costly?

Another absurd tradition (for it is nothing else) is, that the breeding sow must be kept on general starvation principles for some months before littering, in order that she may have fat pigs! It always reminds one of the experiment of accustoming the horse to the saw-dust diet—successful, only that the animal died before the trial was complete! If there is any aphorism in swine breeding that is faithfully carried out

in practice, it is the silly one I refer to; and so general is it, that, among some of our breeders, you may almost literally "count the chickens before they are hatched," so almost transparent are the flattened carcasses of their breeding animals.

A lean sow will, it is true, often bear well-conditioned pigs, simply because provident Nature takes care that the *fetus in utero* shall be nourished, whatever becomes of the parent.—The parent will starve to death, while the unborn fetus is in plump condition. The very fat animal has a lean product, because in all animals abounding in fat the nutritive process is feeble. There is a sensible mean, which every discreet and intelligent breeder will at once recognize.

Very truly, yours,

AND. MCFARLAND.

[Written for the Valley Farmer.]

ON PLEURO-PNEUMONIA.

BY HENRY CORBY, VETERINARY SURGEON.
(Concluded from May No.)

The latest accounts from Massachusetts inform us that the commissioners appointed by the Legislature of that State have thoroughly investigated the subject, and have already exhausted the amount appropriated as a compensation to the owners of cattle destroyed by order of the commissioners. They, however, are able to report that the disease is confined to a limited section of the country, and pending further action by the Legislature, it has been proposed to raise a guaranty fund by private subscription, so that they may be able to continue their work of inspection, and where necessary order animals to be destroyed. Meanwhile a rigid quarantine is enforced; in the villages where the disease exists, cattle are not allowed to be removed from the farms of their owners, and by this means it is reasonably hoped that the further spread of the disease will be prevented. It seems to be clearly shown that the disease has not assumed an epizootic character, but has only spread by communication from one animal to another; and this being so, the efforts of the commissioners will probably prove successful in eradicating it. Now, with reference to this infectious character of the disease, it has been compared to small-pox, but between the two diseases there is this important distinction, small-pox is readily communicable by direct inoculation, for if the smallest quantity of the virus of small-pox be introduced beneath the cuticle, so as to be absorbed by the vessels of the skin, it will in due time produce the disease in the person thus inoculated. But with pleuro-pneumonia no such result follows; though in Holland and Belgium, inoculation with the serum taken from diseased lungs has been largely practiced, yet in no case has pleuro-pneumonia been produced thereby.

Dr. Willems, who introduced the practice of inoculation, claims that it acts as a preventive of the disease; but the various scientific commissions that have been appointed to examine the subject, have reported unfavorably, and therefore inoculation has not come into general use in Europe.

Some veterinary surgeons in England doubt the infectious nature of the disease, but in view of the facts developed in Massachusetts, its power to spread by infection cannot I think be denied; and even in England the great majority of veterinary surgeons and cattle owners look upon the disease as infectious. Nevertheless cases are frequently occurring in that country in which the disease does make its appearance in a herd of cattle that have not been brought into contact with diseased animals; and this will most frequently occur among dairy cows that are confined in close sheds, without a proper attention to cleanliness and ventilation.

Where animals are at pasture the most likely cause will be a continuance of wet weather, and keeping them on low wet pasture. It often occurs among cattle that have been brought over from Ireland, probably from the hardships undergone in the transit, crowding together in the steamers and in the railroad cars, and want of proper food and water during the journey.

This is not the first time that Pleuro-Pneumonia has appeared in America; my friend, Dr. Grice, one of the oldest veterinary surgeons in New York, informs me that many years since it affected a great number of cows in the dairies of that city, and is still occasionally to be met with among the dairy cattle there and in New Jersey; but by careful separation of diseased from the healthy animals as soon as illness shows itself, it is prevented from spreading. I also learn from Dr. Copeman, of Utica, N. Y. that it has occurred in his neighborhood, being introduced by some Durham cattle imported from England; but a careful separation of the animals affected, and those with which they had been in contact, from all others, the further spread of the disease was avoided.

I shall say but little of treatment in such cases; the remarks already made are sufficient to show the importance of keeping all affected animals carefully quarantined, and also that by so doing the spread of the disease may be checked.

It has been found, however, that by the use of stimulant and tonic medicines, with the application of active blisters to the sides of the chest, and at the same time supporting the strength of the animal by administering nutritive food, as gruel, &c. many cases that are not very severe may be cured, and the animals afterwards fattened for the butcher.

TREMLES, OR MILK SICKNESS.—Dr. Robert Thompson, of Columbus, Ohio, has published eighteen interrogatories, addressed to persons in any way acquainted with this mysterious disease, and requesting all such to report to him between the 15th of May and the 1st of June, in order that he may report on the subject to the American Medical Association at its meeting, to be held in New Haven, Connecticut, on the first Tuesday of June, 1860.

We are pleased to see this question attracting the attention of the learned, with the hope that some light may be thrown on the subject, and we only regret that the notice of Dr. Thompson had not been given in time for us to have published the questions to be answered, in our April or May numbers.

COOKED FOOD FOR HOGS.

EDS. VALLEY FARMER: Thinking that every farmer ought to give you his experience and opinions; if not for publication, at least to show you how he corroborates or reviews your doctrines, I propose to offer an attempt in that way. I experimented a little last fall in feeding hogs, and became satisfied that from one-third to one-half can be saved by grinding and cooking. My conviction is merely based on observation, however, as I was not prepared to weigh and measure correctly. I have a cast iron crusher, and made me a boiler of plank, with sheet iron bottom, that holds some 90 gallons. I found the hogs could eat but little, if any, over half the quantity per day, and concluded they must fatten *as fast*, if not faster, than on dry corn; and this conclusion seemed to be justified at weighing time. Taking a hint from Mr. Clay's experiment, which has probably been overlooked by many—namely, that his hogs gained the most when he fed corn and slop together—and wanting mine to fatten in the shortest possible time, I fed them 10 or 12 ears per head of raw corn late at night, and this was greedily devoured. When I fed them corn any other time, they would not eat mush as well. I found they would eat about the same quantity of meal, whether made into thin slop or thick mush, so it was not too thick to be well done. $2\frac{1}{2}$ to 3 bushels of corn and cob-meal, would make 80 gallons of mush about right. But there came a great difficulty in the way, and put a stop to the whole experiment; I mean the cold weather. It froze up my troughs and boiler, and I was compelled to feed the common way. However, my troughs were still useful, as they kept from wasting the corn on the ground. Now, I want to convert my wooden kettle into a steam boiler, by making a tight lid to it, and leading the steam into a vat in the ground through wooden pipes, like those used for chain pumps, putting one on the bottom of the vat, lengthwise, with a number of small holes in it, and one out through the top, with an elbow into the boiler; and then grind and cook all the corn I feed. What objections or difficulties will I find in the way, or is it practicable? I have no doubt but Mr. Hedges' steam boiler is to this, what his sugar mill's are to our common cider mills for crushing sugar cane; and so I hope it might be the means of convincing many farmers of its great utility, as well as a substitute for those who are not able or justified to afford the best.

You are altogether right in insisting on farmers to build barns and shelter for stock; but, I must beg leave to object to the way, of even the best, of having a fine barn, with feed stowed away snugly in it, and the stock running outside or under little sheds; and would suggest if it would not be good economy to make stalls and room for them inside, even if some feed had to be stacked outside. This is practiced in the northern parts of Europe, and cattle are often wintered better there without grain, than they generally are here with it. The trouble of tying them up with a common oxbow and latch over

the neck, and two or three withs well twisted and doubled and run through the wall, is trifling, and they will soon get trained to go each to their own place.

Another remark, and my random epistle is done. I will venture that the new and cheap food for bees, mentioned in the January number '59, will prove to be a vision, because I think bees do not actually convert anything into honey, but merely gather it from flowers, &c.; and it is hardly probable that the oil-cake contains any considerable quantity of it

Yours truly, C. P.

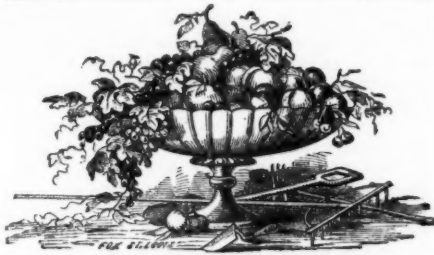
Adair County, Mo. January 6th, 1860,

REPLY.—Our correspondent mistakes Mr. Clay's method of feeding cooked corn and slop. He fed but one at a time to the same set of hogs, changing from one to the other after a certain number of days, in order to determine the advantage, if any, of grinding over the mere cooking the whole corn. It costs something to grind the corn; yet it costs more to cook whole corn, than it does to cook the meal. The cooked meal gave rather the greatest gain; but the chief advantages are secured when either the corn or meal is cooked and softened so as to absorb the greatest amount of water, and be most easy of digestion. Dry corn is too concentrated, and passes off before it is half digested. If your boiler has sufficient *fire surface*, the steam may be easily conveyed to a steam vat, through the wood-tubing. But to render cooking food for hogs economical, the most perfect apparatus should be constructed—that is, so made that the greatest amount of steam can be raised with the least cost of fuel and labor; and the saving in this way will soon pay all cost, where any considerable number of hogs are fed.

Of course cattle should have stalls, and be protected from the cold winds and snows of winter, even if the hay has to be stacked out doors.

The method usually adopted in large dairies for tying up or fastening cattle in the stalls, is better than bows or withs suggested by our correspondent.

—♦♦♦—
A correspondent of the *Country Gentleman*, suggests the offering of premiums at annual county fairs for fast walking as well as fast trotting horses. He says he knew a man who kept from two to four teams at work on the road, and never allowed them to trot at all; yet he made the distance in quicker time than his neighbors, who made their horses trot at every convenient place. He said that when a horse walked after trotting, he walked much slower than his common gait, if kept continually on the walk.



HORTICULTURAL.

FRUIT BUD GRAFTING:

OR, A NEW METHOD OF FERTILIZING BARREN TREES.

In all well cultivated gardens, where fruit trees are extensively grown, certain trees are met with, more particularly among pears, but not unfrequently among plums, apples, &c. which present an over luxuriance during the first ten or fifteen years of their growth, where all the vigor of the tree is expended in the production of wood, which condition is unfavorable to the formation of fruit spurs. Various expedients have been resorted to by experienced gardeners to obviate this evil, by checking the rapid formation of wood, and to encourage the production of fruit bearing spurs. Any method that has a tendency to check the return of the sap, like tying weights to the ends of the branches, or bending them down, and securing them to pegs driven into the ground, or ringing the branches, &c. serves to promote fruitfulness. Another method is practiced by some, that is by root pruning, cutting off one-half or two-thirds of the length of a portion of the roots, in order to check the growth of wood and throw the tree into a bearing habit. But some of these methods for establishing an equilibrium between wood and fruit producing forces, are objectionable, and when better methods can be devised it is proper to employ them. The French gardeners are curious in these matters, and are always experimenting in their horticultural operations. The *London Gardener's Chronicle* gives some account of operations performed by members of the Paris Horticultural Society, by inserting fruit spurs from fertile trees into the sides of the thrifty branches of the barren trees. This method differs from the ordinary mode of grafting fruit spurs upon the barren branches after the common practice of whip grafting in the spring, but it is performed in the latter part of summer, more after the method of budding. The precise time for performing the operation must be governed by the condition of the flow of sap in the branches, say near the

close of their season of growth, while the sap continues to flow sufficiently for the bark to be raised with ease and perfection. Such trees as most require this operation continue their growth at a later period in the summer than others, owing to the force and vigor with which they form their wood branches.

The operation is performed thus: Fruit spurs (those formed the present season, containing the blossom buds for the following spring,) which are usually from one inch to two and a half inches long, are cut from the body of the branch, together with a portion of the bark and wood at the base of the spur, securing a piece of the branch at right angles with the spur an inch or more long, like the bark containing the bud in the ordinary mode of budding; this is pared down so as to be readily inserted. The stock on the branch is then prepared as for budding, by a cut in the form of a T. The bark at the sides is gently lifted and the spur inserted, and then firmly secured with a band, and the cut parts entirely covered with grafting wax, in order to prevent injury from drying. The wound is speedily healed, and the spur, by fall, is firmly united to the branch, and in the spring puts forth its blossoms and matures its fruit the same as though it was still growing upon its parent limb, but with greater luxuriance, because it is sustained by a vigorous flow of sap. The whole tree being supplied in this way with a set of fruit spurs, a good crop of fruit may be expected, and the luxuriance of the tree so much checked by the development of the fruit that the habit of fruit bearing becomes established, and is continued with a tree of robust habit and vigorous growth.

The operation has also been performed by a method slightly varying from the above, but with the same good results: it is by inserting short scions three or four inches long with a fruit spur on the side; these scions are inserted after the method of side grafting, by opening the bark in the same manner as described above; the scion is then pared down to a thin point on one side and inserted, bringing a long splice in close contact with the alburnum of the stock.

The fruit grown in this way on these vigorous trees, the following season after the spurs were inserted, was of unusual size and beauty, and proved to be the finest specimens presented at the Paris Horticultural Society's exhibition, and which received the first-class prizes.

Although, in well cultivated gardens these rapid growing fruit trees, in which the wood producing force so far predominates as to ren-

der the trees barren, are frequently met with, yet the opposite evil more universally prevails owing to the want of proper care and cultivation, which induces a stunted habit in young trees, causing the multiplication of fruit spurs, and throwing the tree prematurely into fruit bearing, in which the fruit-producing forces gain the ascendancy and no wood is produced beyond the annual growth of fruit spurs; and from the want of the exercise of proper judgment and thinning the fruit to the standard of the capacity of the tree to mature, its energies are soon so over taxed in bearing that the death of the tree soon ensues. This is an error too commonly met with in almost every attempt to grow pears throughout our country. The remedy is the proper application of manures, thorough cultivation, and reducing the number of specimens of fruit upon the tree while the fruit is still small, to the capacity of the tree to mature it. We know that inexperienced persons are reluctant to pluck off the just forming fruit to the extent of two-thirds or three-quarters of what is set upon the tree. But judgment and experience should teach such that the remaining fruit will be increased in size more than double what it would be were the tree allowed to retain all that is set upon it, while the quality of the remaining fruit is improved in a proportion even beyond that. And, again, without such cultivation, and proper thinning of the fruit, an equilibrium of forces in the tree cannot be maintained; and when these are neglected and the energies of the newly planted tree are allowed to expend themselves in over production of fruit, the speedy death of the tree is inevitable.

Our American fruit growers have much yet to learn in this respect, particularly those generally with small gardens, and but just entering into business.

A NEW FERTILIZER.—In Norway an association has been formed, with a capital of \$100,000, for the purpose of securing and dealing in a new fertilizer. It is the refuse mass hitherto thrown away in the preparation of cod-fish; literally the heads and bones of millions of fish dressed at the fisheries. The scene of operation is the Leoffoden islands, about three hundred miles north of Christiania. This has long been the seat of extensive cod fisheries, and it is estimated that there is refuse material enough to make 2,500 tons annually of fish guano. There are great masses of poor fish taken of other kinds, and that can be taken very easily to increase the quantity almost indefinitely. The proper buildings, machinery and scientific knowledge and management have been secured

to put the work of manufacturing fish-guano into operation on an extensive and economical scale. It is found to be almost equal in value to the best Peruvian guano, and can be sold at a moderate price. An exchange says:

"Two similar companies are in operation in this country, one in the State of Rhode Island, and the other on the south side of Long Island. They make fish-oil of the scup or porgies, and the menhaden, caught so plentifully along the coast. The very considerable residue after the extraction of the oil, composed of the skin, bones and muscle of the fish, is dried and ground into a powder, which bears a close resemblance to the imported guano, and is sold at about forty dollars per ton. This manufacture might be widely extended, if these companies would take the trouble to introduce their article to the notice of farmers generally."

This indicates the onward progress of agriculture, both in this country and in Europe.—When we can save what is now wasted in the offal and refuse matter of the world, and return it to the soil from which it is taken, we shall have reduced one department of agriculture to perfection.

The Vine Culture in California.

California is destined to excel even the most productive countries of Europe in the culture of the grape. There is a great variety of soil embraced within the alluvial bottoms and the mountain sides, along the coasts of that State, the most of which is admirably adapted to the vine. The volcanic soils, and those containing magnesia, lime, or chalk, or those with a mixture of red clay and soft rock, produce the richest grapes, which make a substantial wine, without the addition of sugar or alcohol. Next to this, that kind of soil which abounds in shells, far advanced in decomposition, is found best. The lighter sandy and gravelly soils produce grapes abounding in juice, but not so rich in sugar. These localities are more convenient to market, and the fruit is better for the table than for wine. With proper care a supply may be kept up for this purpose nearly the year round. It is not only the peculiarities of the soil of California that renders the grape so remarkably productive, but the climate, probably, has a greater influence, owing to the absence of rain at that period of the growth when an excess of moisture is liable to cause the grapes to rot on the vines. This is the chief drawback to the most perfect success in the vine-growing sections of the Middle and Western States. The peculiarities of the soil and climate of California for the perfect development of the grape, afford us some useful hints for the cultivation of the vine in our own section of the country. What nature has done for California, in regard to soil and climate, we

should attempt to accomplish by artificial means. This, it is true, can only be done to a limited extent, but frequently the crop under ordinary culture is partially destroyed by excessive rains and alternate sunshine in the month of June or July; when, with a proper preparation of the soil and suitable culture, the loss in whole or in part might be avoided. It is the scalding sun, that almost uniformly follows the heavy rains in June, that causes the chief injury to the crop at this season of the year. It will be found, then, that in those situations, and upon a soil susceptible of the most speedy and thorough drainage, the grape is the least liable to injury from these causes. One of the great benefits of trenching is the aid that it affords to drainage. But in order to secure the most thorough protection to the grape from these injuries, a vineyard should be completely underdrained as well as trenched. This will speedily carry the water off below the surface rendering the evaporation less through the agency of the sun and air, and hence remove in a great degree those atmospheric influences which are causes of the rot at this season of the year.

The capacity of our Western and South-Western States for grape growing is not yet half understood. There are thousands of acres among the hills, knobs and barrens of Kentucky, Indiana, Tennessee and other States where the soil, though thin, is easily drained, and abounds in all the ingredients essential for the production of the grape in the greatest perfection.

Though the soil and climate of California are naturally such as to insure the greatest success in vine culture, yet we, upon this side of the Rocky Mountains, can avail ourselves of the advantages of cheap labor in the preparation of our soil for the grape culture, which if properly directed would do much to remove the evils complained of.

We find in the journal of the California State Agricultural Society some interesting statistics, showing the rapid increase of the vine culture in the various counties of that State within the last three years. In 1856 the number of established vines in the State is set down at 1,546,134. In 1858 they had increased to 3,954,548; and from past results it is estimated that in 1860 the extension of vineyard culture from 1858 will be equal to two hundred and sixty-three per cent., and that the wine from the crop of this year will not fall short of nine hundred millions of gallons, and of brandy four hundred thousand gallons. The growth of grapes, as well as of other fruits in California, is almost fabulous, and yet

with an increased knowledge of the proper mode of culture and the improvement in implements for deep tillage, these crops will still be greatly increased.

In California the evils of summer drought are to be overcome, as far as possible, by a proper system of cultivation, by deep tillage and the most thorough pulverization of the soil; while, with us, the evils arising from excessive wet and unequal temperature are to be overcome by similar means. The amount of labor and expense necessary for this have deterred many of our own cultivators from properly preparing their land, and hence they have been subject to serious losses. Although the returns are not immediate, yet it is better to expend several hundred dollars an acre in preparing the soil, than to attempt to grow grapes without it.

PREMIUMS FOR ORCHARDS.

Agricultural Societies have increased and multiplied until we believe there is hardly a State in the Union that has not its State, or parent Society, and in each of these States there are numerous local or county organizations, holding their annual exhibitions, and offering a liberal list of premiums for the promotion and encouragement of science, the mechanic arts, and the perfection of Agriculture and Horticulture in all its various departments. Cultivators are encouraged by the offer of specific premiums for the best of each of the various crops of the field, the garden and the orchard. Of course, the experience of every year suggests to the managers of these societies various modifications and improvements in the form of premiums and the objects for which they are offered. Besides the premiums which are offered for the various products of the soil, some of the State and County Societies have wisely extended their rewards for the best conducted farms, as a whole. A premium farm is the model for the whole neighborhood or State. The system of drainage, of manuring, the management and cultivation of crops in general, the construction and arrangement of the farm buildings—all afford examples for imitation by less successful cultivators; and in this consists the great utility and advantage to be derived from the organization of these societies.

Besides the offer of premiums for the best specimens of apples, pears, peaches, &c. we would suggest the importance of offering liberal premiums for the **BEST ORCHARD**. This may embrace fruits in general, or the apple, pear, peach, &c. separately. Fruit-growing is be-

coming the most profitable part of cultivation, and with our present facilities for sending all kinds of fruit into every part of the country the demand will forever be far in advance of the supply. Supply always begets a demand. Those choice fruits once enjoyed only by the favored few are demanded by the million as soon as a supply is furnished. This is the result of every improvement in social life. The culture of some of the leading fruits, such as apples, peaches, &c. is from some cause becoming every year more and more difficult; difficulties, however, which may be easily overcome from a study of the causes which produce them, and nothing would tend to this result more effectually than by the offer of liberal premiums for orchard management in general. An orchard to be healthy and fruitful, at the present day, must be favorably located, the soil either naturally or artificially drained, and what is of the greatest importance, protected by groves of timber upon the exposed sides, and receive the requisite cultivation, training and management in general.

We throw out these hints with the hope that Agricultural societies may be induced to consider the importance of the subject and act accordingly. We want more fruit, more varieties, a more general succession in our markets, and a supply throughout the year. We eat altogether too much meat for health. We have truly been denominated a nation of meat eaters. A full and constant supply of fruits in our markets would tend to reduce greatly the consumption of meat and improve the public health accordingly.

How to Grow Large Grapes and to Secure Early Maturity.

It is well known to most practical horticulturists, that young and vigorous fruit trees frequently prove unfruitful, owing to the appropriation of the entire flow of sap to the formation of wood. These trees may be rendered productive by any means that will check the return of the sap, causing the formation of fruit spurs for a crop the succeeding year. To accomplish this, various means are employed, such as hanging a weight upon the branches, or securing the limbs in an inverted position by tying cords or twines secured to the body of the tree, or to stakes driven into the ground. Another method is by "ringing," that is, by removing a ring of bark from around the branches a quarter of an inch wide. But this last method should never be employed, except by way of experiment upon such branches as it is intended to remove in sub-

sequent pruning, because the ringed branch will seldom or never recover from this operation. But upon grape vines trained, as they should be upon the renewal system, the process of ringing may be performed with advantage to the growing fruit without any serious detriment to the vine, because the fruit-bearing branches, upon which the operation is performed, under the regular system of training, are to be removed at the next winter pruning, and the wood of the same season's growth is to become the bearing wood for the following year. The ringing may be done either by removing a narrow strip of bark from the branch, or, what is more expeditious and equally efficacious, a wire may be placed around it and the ends firmly twisted so as to secure the same object. The process of ringing not only greatly increases the size of the grapes, but it causes them to ripen eight or ten days earlier than those left to the general operations of nature. Thus, by advancing the period of maturity, the season of this delicious fruit is prolonged, as well as improved in size and quality. In certain sections of the country where the season is too short to mature certain varieties of the grape, this process may be employed to hasten the ripening. The ringing should be performed soon after the vines have gone out of blossom, or while the fruit is still quite small.

GRAFTING THE GRAPE.

EDS. VALLEY FARMER:—In the March No. of your paper, I notice a communication from Carew Sanders answering inquiries of C. Morgan, of Kentucky, as to the best method of grafting the grape. With all due deference to his acknowledged ability, I think I can give a better method; having experimented five years in succession without succeeding in a solitary instance, I have now no more difficulty than I find in grafting the pear. Here it is: Select the grafts while the vine is dormant. The one year old wood does not answer a good purpose, from the fact that it is nearly all pith. The two year old wood will not do, on account of the difficulty of forcing a bud, but the two combined, answer admirably. Keep moist, and in a cool place, until the leaf of the vine is fully expanded, and not, as Mr. Sanders recommends, "till the buds have started on the stocks" (which is, I grant, the proper time for grafting fruit trees); but insert in the vine, at that time, and my experience is, that failure will certainly be the result, as the excessive flow of sap will prevent the parts uniting. Later in the season, the sap becomes thick and gummy, and there is no need of failing once in a thousand times if properly inserted. Cut with two or three buds, one is sufficient if the joint be long enough to place the splice five or six inches below the surface of the ground; three inches is long enough for the two year old

wood. Two inches from the end cut it *almost* half in two, but not quite, then turn the opposite side, and cut in the same way. Split out the two sides leaving a thin sliver in the centre just sufficient to serve as a splint to bind the grass and stalk together. The shoulders should be square. Remove the earth from stalk, cut the root off square, split it in the centre, insert the graft so that the shoulders of graft and stalk will fit closely, tie a string around the top of stalk, draw the earth up and tramp firmly, then draw a little loose earth on, to prevent baking from the previous tramping, and, my word for it, "there is no such word as fail." I have seen them grow thirty feet the first summer.

A SUBSCRIBER.

Bryan, Saline Co. Mo.

[Written for the Valley Farmer.]

Monthly Hints for the Gardener.

JUNE.

BY CAREW SANDERS.

Cutting Asparagus.—We observe that the old-fashioned error, of cutting asparagus deep down in the ground, so as to procure the whole stalk bleached and white, with scarcely an inch of green stem, prevails universally among the market gardeners of our city. Either they, or the consumers, have not yet learned, that the white stalk below the ground, although it looks nice, is tough, stringy and bitter, and that the green, soft, tender stalk, above the ground, when from four to six inches high, and before the head or flower buds begin to expand, is in the best condition to cut; it is then soft, sweet, tender, and delicious, and there is then no waste, as it is all soft, like marrow, with scarcely any stringy substance formed. If the gardener, instead of thrusting his knife down six inches in the ground to cut off the stalk, endangering other buds that are coming up in close proximity to it, were to cut it off just an inch or two below the surface, when the stalk is of the length indicated above, he would then have it in its fit state for use. We know that fashion or prejudice often governs the market, and it may be so in this case; it may be that consumers will buy it only when it is bleached and white, under a mistaken notion that it is then best; but if they studied their own interest, they would reverse this plan, and only buy it when it was all, or nearly all green.

Mildew on Gooseberries.—It is well known to all cultivators, that we can do nothing with the foreign varieties of the gooseberry, on account of the mildew, which attacks the bushes early in the season, covering the fruit with a coat of whitish, downy-looking substance, effectually putting a stop to its further swelling, and precluding all chance of its ripening; and not the fruit only, but the young shoots are attacked, and all further growth stopped, thus rendering it almost impossible to get the bush to grow up into any size worth the trouble.

The cause of this lies, undoubtedly, in the climate; the gooseberry is a native of a cooler, damper, and more equable climate than ours; coolness and humidity in the atmosphere, and

moisture in the soil, is what it likes; but the intense sun, sudden variations of temperature, and aridity of atmosphere, is what it cannot stand, and is the cause of its failure this far South. Several degrees North some varieties of the large English gooseberry succeed tolerably well, and in some localities quite so, as we have seen a fair crop at Albany, N. Y.; and near Chicago, we are told, and other places north of latitude 41° and 42°, it succeeds sufficiently well to justify its culture to a certain extent. It is not unfrequent in this part of country to meet with persons who assert that they either have got, or have seen, a kind or kinds of the large English gooseberry that succeed well with them, never mildew, ripen fully, &c. The writer can call to mind a number of instances of this nature, but it is very rare to get a sight of the fine gooseberries they talk about, which one would think would be forthcoming at times did they actually exist.

The fine, large, high flavored gooseberries, in England, are used as a dessert or table fruit, and like other fruits have a peculiar and delicious flavor of their own, which no other fruit can fill: here they are only valued as pie fruits, or for preserving; but it is undoubtedly because it lacks the size and high flavor of the foreign varieties.

The Houghton seedling is free enough from mildew, is hardy and very productive, but is rather small; still, we are not without hope that a variety may be some day produced that will possess the freedom from mildew that the Houghton does, with some of the good qualities of the foreign kinds. A step has been made in that direction already, as Downing's Seedling and the Mountain Seedling are both claimed to be improvements on the Houghton. There is a wider field for the improvement of the gooseberry, by hybridization or other means, at the present time, than any other fruit, small or large; and, doubtless, there are hundreds industriously at work trying to fill it: we hope some of them may succeed. In connection with this we would say, that in conversation with an amateur horticulturist and farmer the other day on the above subject, he remarked, that years ago, when he had his gooseberry bushes down in the neighborhood of a spring-house, at the foot of a northern slope, he used to get fine ripe gooseberries every year, but since he had removed his plants up into his garden, near the house, and on the high ground, he had never had a perfect berry since. A selection of a cool, damp, shaded location, if to be had, would, at all times, lessen the effects of climate on the fruit, unquestionably, and should be resorted to, if the attempt to grow the foreign kinds is made.

Care of Early Flowering Bulbs.—It is not perhaps known to all of your readers, that early flowering bulbs, which have done flowering (and there are a number of such during the month of May), should be taken up as soon as their leaves decay. Among them are spring crocuses, crown imperials, &c. Some persons do not take them up at all, while others do so at intervals of two or three years. But there is a great disadvantage in this latter plan, as the

offsets should be removed, or separated from the principal bulbs, and the best and largest of the large ones selected for the new planting.—Where it is desired to increase the stock of bulbs, the offsets, when separated, should be immediately planted in suitable borders. This increases their size greatly and fits them for general planting the next season. Immediate planting is not necessary, unless for the reasons stated.

I have found that the best plan to preserve early flowering bulbs, is to place them in some dry shady place, to remain there until well dried, and then pack away in sand, from which all moisture has been expelled by previous exposure to a hot sun and frequent stirring. In this way they are easily kept until the early part of October, when they should be set out.

These hints may prove useful to some of your inexperienced readers.—[*Tenton, in Farmer and Gardener.*]

Thinning Out the Vegetables.—It seems a pity to put a hoe into those luxuriant rows of beets, carrots, parsnips, and onions, that already give promise of an abundant harvest. But full two-thirds of them must still be sacrificed before you can get a full crop. They are cramped for room. The carrot sends out its roots on all sides of the main tap, and if it have chance will completely occupy the soil on all sides of it with its fine rootlets. One root will appropriate the aliment in a square foot of soil much better than half a dozen, and will make a greater weight of nutritious food at the harvest. This is what wise cultivators are seeking for—the most food upon the least surface. Thin out then to six or eight inches apart, and if you want very large specimens for fairs, make the spaces a foot wide. The roots that are pulled up are excellent fodder for cows and pigs, and if you throw a few into the poultry yard, they will be appreciated. Try it and see.—[*American Agriculturist.*]

FRUIT PROSPECTS.—Since the killing weather of December, the fruit generally has escaped material injury from frosts. In the more elevated regions throughout the South-Western States there will be a fair crop of peaches, and in many sections a much larger yield than last year. Apples, at the present time, very generally throughout the country, promise an unusual crop. Small fruits—strawberries and grapes, have been somewhat cut off by the late Spring frosts. In exposed situations the grape shoots were entirely killed, in others but slightly injured; yet the crop, upon an average, will be shortened at least one-third by this cause. Without rain strawberries will begin soon to wither.

EARLY STRAWBERRIES AND CHERRIES.—As early as the 4th of May, ripe strawberries appeared in the Louisville market; and on the 7th, ripe cherries were sold: yet but few strawberries, compared with other seasons, have thus far been brought in.

[Written for the Valley Farmer.]

Remarkable Effects of Lime on Peas.

As the collection and publication of well-authenticated facts, are contributions to knowledge; and as the speculative as well as the practical agriculturists are at this time greatly excited on the subject of manures, mineral as well as vegetable, the following statement may be of interest to your readers, and may prompt some of them to make and carefully note the effect of a similar application of lime.

Two years since, having witnessed a most remarkable result supposed to have been produced by the application of air-slacked lime accidentally applied to growing peas, and as this is about the season when the experiment can be repeated and carefully observed, I will state the case:

In a garden, on a second terrace or sloping land, near the Ohio river—sub-soil deep red, probably the decomposed rocks of the "Barrens limestone"—surface soil dark chocolate color, containing considerable quantity of fine sand—two rows of peas had been planted (Marrowfat, Daniel O'Rourke, or a species of climbing pea). When the plants were about six inches high, about half of one of the rows, say twenty feet in length, was limed with a surplus quantity of lime, which had been procured for whitewashing, the lime had air-slacked perfectly, and being in the way and supposed to be spoiled, to get it out of the way it was taken into the garden and distributed along part of one of the rows of growing peas. When the growing peas were observed and the above statement received, the condition of the crop was in this wise: The row and a half which had received no lime was in good growing condition, about three feet high, with a fair crop of pea pods on the vines just about in condition to pick for use—but mark the difference! the part of a row which had been limed was about six feet high, growing most luxuriantly, the lower part of the vines as full of peas as the other part of the rows as high as they were, while the three feet which the limed part stood above those not limed was even more loaded with peas and pea-pods in various stages of growth, the vines still growing vigorously and blossoming at the top.

The peas planted, were said to be all of one kind, or sort, procured in one parcel of a Louisville seedsman. The land, so far as could be judged, was equally good the length of the rows, having the same inclination toward the sun.—Can it be, that the remarkable difference in the growth of the peas in the different parts of the rows, was the result of the application of the lime to one part and not to the other? If it was the effect of the lime, How does it produce such effects? Does the lime change the condition of the soil, or does it set free and bring into immediate use for the plants, food lying dormant when it was not applied? Or does the lime arrest the carbonic acid and ammonia from the atmosphere, and thus bring more of these elements to the plants near which it had been applied, than could be received by plants out of the reach of its influence? Does lime really

produce the effect on growing peas and similar crops such as those above stated.

Judging from the growth of corn, beans, beets, melons, &c., growing in the garden alluded to, and its relative position in reference to the rocks in the vicinity, it could not have been that the garden had less than the normal quantity of lime common to productive soils. S. J. D.

The above is from an intelligent and observing correspondent. The facts stated, suggest hints that should lead to further experiments in the same line, not only on peas, but also upon other crops and upon different soils. We regret that the communication was not received in time to appear in an earlier number of the *Valley Farmer*. We hope to hear again and often from our valued correspondent. — [Eds. *Valley Farmer*.

Meramec Horticultural Society.

ALLENTON, May 3d, 1860.

The seventeenth monthly meeting was held at the house of the President, Dr. A. W. McPherson.

The minutes were read and approved. Five new members were elected.

The Executive Committee reported a Premium List, and Rules and Regulations for the Annual Exhibition, to be held on the 12th and 13th of September next. The report was discussed at some length, and on motion the Premium List was re-committed for the purpose of revision, and with instructions to offer premiums for Wine. The suggestion of the Committee, that the premiums be paid in appropriate useful articles in preference to cash, was adopted.

The Committee was directed to procure the printing of 250 copies of the Premium List in poster form.

FRUITS, FLOWERS, ETC. EXHIBITED, AND REPORTED ON.

By WILLIAM HARRIS: Strawberries, believed by the Fruit Committee to be Hudson. Some of them fully ripe and firm; roundish, ovate; dark glossy red; seeds deeply imbedded; core long, conical, sometimes slightly open; flesh firm, acid flavor, not first-rate.

By Miss NANNIE INKS: Floral Design, a miniature temple, composed of wild flowers, of a dozen or more varieties, which exhibited so much taste and love of the beautiful in nature, as to command special attention.

By Masters O. A. KITTEDGER and FRANK J. MORSE: Boquet of Wild Flowers, which consisted of some rare gems. The Hyacinths and Dodecatheon being as exquisite as rare, and about twelve other varieties, showing praiseworthy taste and discrimination.

By T. R. ALLEN: Boquet of Cultivated Flowers—varieties of Roses, Ranunculus, and Snowdrop or Galanthus.

By L. D. VOTAW: English Fluke Potato; very fine and perfect.

By E. VAUGHN: Giant Rhubarb and Cahoon's Seedling. These were fine specimens, and so much alike in taste and appearance that the Committee would consider them the same.

The Executive Committee reported "The treatment of newly-planted Orchards and Vineyards," as the subject for discussion at next meeting, which was adopted.

The President announced the next meeting to be held at the house of L. D. Votaw, at Eureka, on the first Thursday of June, at 10 o'clock, A.M.

On motion the meeting adjourned.

WM. MUIR, Sec.

CURRENT WINE.

People think that they must have a "little wine for the stomach's sake." Good wine—wine that is wine, and not a compound of new rum, logwood, and sugar of lead, is often useful as a gentle stimulant, but not absolutely necessary in all cases. As it is almost an impossibility to get pure wine, we recommend to those who have the means, to manufacture currant wine, and let it be pure currant wine, using nothing but pure currants, pure water, and pure sugar. Keep out your raw alcohol and your poisoned brandy.

We have heretofore given directions for making this article. We now publish the following which we borrow from the *Massachusetts Plowman*:

There is no great difficulty in making good currant wine. White sugar or brown sugar may be used. The better the quality of the sugar the better the wine will be. The idea that any sort of sugar will do for wine is pretty well exploded.

It is now also said that white currants make a much nicer wine than the red currants. Will some producer try the white currant and report progress.

CURRENT WINE.—This article, as usually manufactured, is rather a cordial than a wine, and is entirely inferior to the common wine; but when properly made, it will be a very superior, healthful beverage, particularly for summer drink, when fully diluted with water.

We have experimented carefully on the making of currant wine, and the following will be found to give a result which we have found no difficulty in selling in large quantities at \$1 per gallon.

Before pressing the juice from the currants pass them between a pair of rollers to crush them, after which they may be placed in a strong bag, and they will part with the juice readily by light pressure, such as a common screw, heavy weights, &c. To each quart of juice add three pounds of treble refined loaf sugar—single refined sugar is not sufficiently pure—then add as much water as will make one gallon. Or in other words, suppose the cask intended to be used be 30 gallons. In this put 30 quarts of currant juice, 90 lbs. of double refined sugar, and fill the cask to the bung with water; roll it over until the sugar is all dissolved. This will be told by its ceasing to settle in the barrel. Next day roll it again, and place it in a cellar where the temperature will be sure to be even. Leave the bung loose for the free admission of air. In the course of one or two or three days, fermentation will commence. In placing the ear to the bung hole a slight noise will be heard such as may be observed when carbonic acid is escaping from champagne or soda water. Fermentation will continue for a few weeks, converting the sugar into alcohol. As soon as this ceases, drive the bung in tightly, and leave the cask for six months, at the end of which time the wine may be drawn off perfectly clear, without any excess of sweetness.

FRUIT WINES.

Wine may be made from the currant, rhubarb, strawberry, blackberry, raspberry, and gooseberry, of excellent quality. Inferior but quite palatable wines may be made from parsnip and many other roots. While we admit that the true wine must be made from the grape, still, for want of a more appropriate name for beverages made from fruits other than the grape, we call them wines.

The great mistake in these manufactures is in the use of sugar of an inferior quality; double refined is not sufficiently pure to manufacture either of these wines of the best quality; treble refined sugar should be used—that of inferior kind contains gum, and after the fermentation this gum becomes fetid, and its disagreeable odor has to be overcome at the expense of the odor of the fruit, and therefore it should never be used. Brown sugar, no matter of how good a quality, will not make wine, for when fermented, that portion which is like molasses in flavor, if separated from the sugar, as in the process of refining, becomes a rank gum, and not sufficiently delicate as the preserving alcohol of the result. When grapes are fermented, the sugar or saccharine matter is not converted into rum, but into an undistilled brandy of an unobjectionable flavor.

In making fruit wines, alcohol should never be added; a sufficient quantity will be produced by the fermentation to preserve the product, and any further addition injures the quality and arrests the fermentation. When alcohol is added, fruit wines do not improve at all by age.

The common practice of racking cider has caused many to rack fruit wine; this is wrong. When the proper amount of the juice of a fruit, and treble refined sugar in solution, is placed in a barrel with the bung loose, in a cellar of even temperature, fermentation will readily commence, and will proceed until the sugar or a portion of it is converted into alcohol, when it will cease. The buffy coat which rises to the surface will then settle and attach itself to the cask; the bung should then be driven in, and in six months the wine may be drawn off and bottled. No alcohol will be necessary to keep it.—[Working Farmer.]

ORIGIN OF PLANTS.—Madder came from the East. Celery originated in Germany. The Chestnut came from Italy. The Onion originated in Egypt. Tobacco is a native of Virginia. The Nettle is a native of Europe. The Citron is a native of Greece. The Pine is a native of America. Oats originated in North America. The Poppy originated in the East. Rye came originally from Siberia. Parsley was first known in Sardinia. The Pear and Apple are from Europe. Spinage was first cultivated in Arabia. The Sunflower was brought from Peru. The Mulberry tree originated in Persia. The Walnut and Peach came from Persia. The Horse Chestnut is a native of Thibet. The Cucumber came from the East Indies. The Quince came from the island of Crete. The radish is a native of China and Japan. Pears are supposed to be of Egyptian origin. Horse radish came from the South of Europe. Corn and Potatoes were found in North America.

The Apiary. HINTS FOR THE MONTH.

EDS. VALLEY FARMER:—First swarms of bees rarely issue earlier in the day than 9 A. M., or later than 4 P. M., when the weather has been fair. But the second swarms, which usually come off about nine days after the first, may issue as early as 7 o'clock in the morning, or as late as 5 o'clock in the afternoon. In large apiaries, two or more frequently start at the same time, especially if unfavorable weather has kept some of them back a day or two. When this is threatened, which is a point that experience only can decide, they may sometimes be kept back by sprinkling with water, or by shading the hives; but it is sometimes impossible to keep them separate by any means. If the swarms are small and the season is far advanced, it is no great disadvantage to have two, or even three together; but if they are large, it should be prevented as far as practicable. When two swarms have clustered in one place, you may often succeed in dividing them by putting the bees into separate hives. If in this process you chance to give each a queen, you will have no further trouble; but if you fail to do this, they will either re-unite, or a portion will return to the old stands. Divided swarms should be set twenty feet apart.

In regard to hiving in general, it is unnecessary to say it should be done in the most simple, convenient, and expeditious manner. No rattling of pans nor ringing of bells is necessary to induce them to cluster in the first place. Nor are tables and table-cloths required to propitiate them afterwards. Let them light according to their own instinct, and in more than ninety-nine cases out of a hundred, they will gather on some convenient point near the apiary. Now take your hive—clean and sweet, but not prepared with washes, or perfumed with balm—and, if practicable, jar the bees into it, invert it quickly on a bottom-board, and wait for the “hum” or “call,” which they will set up in a moment: this you will distinguish without difficulty; then jar any that may chance to remain, in front of the hive, and the work will soon be done, having occupied from five to ten minutes. If the bees cluster on the body of a tree, or in some other place where they cannot be readily dislodged by jarring, a portion may be dipped off with some convenient vessel, and thrown in the hive, after which, proceed as before. Many contrivances have been invented to induce swarms to light according to the will of the bee-keeper, but, so far as my observation extends, they are of little use. A bunch of dry mullens fastened on the end of a pole, so as to resemble a mass of bees, will sometimes attract a swarm, if held in the middle of it while flying in the air, but it is not to be depended upon.

After the bees have entered the hive, it should be removed to the place it is designed to occupy, without delay, because if allowed to remain for a number of hours, or until night, as is the practice of many, those bees which will have marked the locality in the meantime, will probably fail to find the place to which you may then take it. In addition to this, let it be thoroughly shaded, either with rooves or covers, or with weeds or boughs. It is highly probable that nine out of ten swarms of bees that “go off,” might be saved by observing this simple direction. Raise the front edge of the hive about half an inch, leaving the back part resting on the board, so that the bees that return with loads may climb up easily. It is frequently the wisest course to put two or three second or third swarms together when they issue within twenty-four hours of each other.

As a general rule, boxes should not be put on new swarms at first. If this is done, the bees will build combs in them at once, and the queen is far more likely to ascend and deposit eggs than she is when the first combs are built below; yet if the swarm is unusually large, this rule may be disregarded.

ST. JOHNSVILLE, 1860.

J. W. QUIMBY.



THE BROKEN VASE.

BY T. S. ARTHUR.

"What will father say?"

This was the frightened exclamation of a lad who, in playing about his father's room, had knocked down a beautiful agate vase, and shattered it into a dozen fragments. A moment before, his eyes were sparkling with pleasure, his cheeks glowing with excitement, and his whole air that of conscious enjoyment; now, he stood pale, shrinking, panting, his eyes heavy and his lips quivering.

"What will father say?" Mournful were his tones, as he repeated the words, after a brief silence. Poor boy! how suddenly was the bright sky of his spirit overclouded. That vase, of rare workmanship, the gift of a friend, and much prized by his father, lay ruined at his feet. It was not in the power of human skill to restore it; of that the unhappy lad felt hopelessly conscious. For awhile, he brooded over the shapeless fragments, vainly searching in his mind for some light; then, as all remained dark and threatening, his feelings sought relief in a gush of tears. For some minutes, he wept and sobbed bitterly; then he grew calm. Seated in a chair, with his sad face resting on his hand, and his eyes fixed on the broken vase, he remained for a long time, meditating on the new aspect of affairs, and trying to see clearly what it was best for him to do. "No one heard it fall," said he, at length, speaking to himself mentally; and as he did so, a feeling of relief was experienced.—"If mother had heard the noise she would have been here in a minute."

The lad rose up quickly, and went silently from the room, not that he had made up his mind to deny all participation in the accident; he only wished to retain the ability to do so, if, on reflection, that course were determined upon. No one was stirring in the passage; the dining-room and kitchen doors were shut; and away off in the third story of the back building was his mother, sewing, in the nursery. So far, all was safe, and the boy felt still further relieved. On one of the landings, as he went down stairs, he saw his little sister's favorite cat fast asleep. At once, the thought was suggested, that here was a "scapegoat" for him. "I'll shut pussy up in the room," said he, with a suddenly formed purpose, "and they'll think she knocked down the vase." And, with the words, he caught up the cat, and went silently towards his father's room; but ere he reached the door, he

felt so disturbed and uncomfortable, such a pressure of guilt for deliberate wrong, that he let the cat fall from his hand. Singularly enough, the animal, instead of running down stairs, bounded off in the other direction, and actually entered the very room where the vase lay broken on the floor.

"I didn't put her in there, anyhow." So the boy thought, as he went slowly and noiselessly down stairs. Still, he didn't feel right about it. But for his action in the case, pussy would still be quietly sleeping on the landing.

"O dear! O dear!" sighed the unhappy boy, as he sat down upon the stairs, "what shall I do?" Father will be so angry! Oh, I wish I hadn't gone into his room!"

At this moment the nursery door opened.

"John! John!"

It was the voice of his mother.

Instead of answering the call, the lad slipped noiselessly down stairs, and, going into the parlor, took a book from the centre-table, and, opening it, pretended, for a few moments, to be reading.

"Here I am, mother," John answered, from the parlor door.

"I want you, dear."

John went up to his mother with a new burden on his already heavy heart. He had pretended not to hear her first call, and in this had acted unfairly towards her, and in a way to diminish his own self-respect.

"Go around to the trimming-store, and get me a skein of black silk, John."

Not venturing to lift his eyes to his mother's face, John took the change that was reached to him, and turned quickly away. He was gone a good while, so long that his mother became slightly impatient at the delay, and, when he appeared, uttered a few reproving words. These hurt him a good deal, and prevented the revelation he was about to make. The fact was, his mind had been so exercised in relation to the broken vase that he had partially forgotten his errand, or, rather, the necessity of doing it promptly. On his way home from the trimming-store, he sat down on a step, to con over a suggestion which had come to his mind. It was, to go at once to his mother, and reveal the fact that the vase was broken, leaving it with her to make the dreadful disclosure to his father, who was of rather a hasty temper, a man who, in too many cases, acted first and reflected afterwards. It was because of this peculiarity in his disposition that John was so much distressed. He knew that, in the first emotions awakened on receiving intelligence of the disaster, he would not look at all beyond the fact, or imagine that there might be any extenuating circumstances. And so John came in from the trimming-store prepared to make a clean breast to his mother; but the displeasure she manifested in consequence of his delay, repelled him, and he shrunk, with the air and feeling of a delinquent, from her presence. Down in the parlor he went, feeling wretched in the extreme.

"O dear! I wish father knew it. What will he say? I would tell him as soon as he came in, and explain all about it; I would tell him

how sorry I feel, and that he may sell my silver fork and napkin-ring, and that he needn't buy me the gold watch he promised for a birthday present; but it wouldn't be of any use. The moment he learns that the vase is broken, he will be angry, and say he don't want to hear a word from me; and, most likely, he'll drive me to the garret, and not let me come down for two or three days. O dear! dear! I wish I hadn't gone into his room. It was wrong, I know; but I wanted a book, and, when there, I forgot myself. I wish father wouldn't get so angry when I do wrong. I want to tell him all about this. I'll never have any rest until he knows that I broke the vase; and yet I'm afraid to say a word about it."

While such thoughts were passing through the mind of the unhappy boy, he was aroused by the sound of his mother's voice, who appeared excited about something. Instinctively, he assigned the cause; and he was right. She had discovered the broken vase. Pale and trembling John stood at the bottom of the stairway, and, as he stood there, his little sister's cat came rushing down and out into the yard, a heavy tick striking the last landing an instant after he had cleared it. The blow, had it reached, could probably have killed her.

How rebuked John felt. Poor pussy had been discovered in the room, and, for his fault, she had come near losing her life. More and more troubled and perplexed was he. Oh, how he yearned to go to his mother and tell her the whole truth; yet he shrank from a thought of the consequences which would follow when his impulsive father learned that his cherished vase was broken, and who had done the deed.

"John! John!"

"I'm here, mother," answered John, in a faint voice.

"Where?"

"Down here in the passage."

"Come up to me, John."

John crept slowly up the stairs. "What has the cat been doing, mother?" said he. How his conscience smote him for this duplicity, and how his trouble increased with the thought that he was widening the gulf which was already between him and an honorable confession of his fault! He had ever been a truthful boy; he loved the truth; but in dread of his father's anger, he had acted a falsehood. To recede involved, now, double consequences. He would expose his duplicity—to him most painful and mortifying—as well as meet the dreaded anger of his father. Ah, if that father—not a hard, harsh, deliberately cruel and unjust man—could have looked into the poor boy's heart at this moment, he would not only have been affected with the tenderest pity for him, but been appalled at the danger to which his own want of self-control was exposing his son.

"What has the cat been doing, mother?" repeated John. Worse and worse! he was widening the gulf still further.

"She has been into your father's room, and knocked down and broken his beautiful vase.—He'll be dreadfully angry about it."

It came instantly to the lip of John to say,

"It wasn't the cat, mother; I broke the vase." But the visage of his angry father was too palpably before him, and he could not utter the words; and so he stood beside his mother, gazing upon the fragments of the vase, in a kind of stupid dismay. It was in his thought to screen himself by saying harsh things of the cat, but he checked their utterance. To do so seemed dastardly as well as wicked.

An hour went by—how full of suffering!—and then, after a long painful struggle with himself John came to where his mother sat sewing, in the nursery, and, sitting down on a low chair beside her, leaned his arms upon her lap, and looked up, with sad, tearful eyes into her face.

"Why, John, what ails you?" said his mother, in surprise.

"I broke the vase, mother."

How mournful were the poor boy's tones!

"You, John?"

He said not a word more, but hid his face on his mother's lap, and cried bitterly.

"How came you to do it, John?" asked his mother, after he had grown calmer.

"It was all an accident, indeed it was; but, oh, what will father say?"

"He will be grieved and angry. You should not have gone to his room."

"I went for a book, and intended to have come right out, but something interested me, and I forgot myself. Oh, what shall I do?"

"You must tell your father about it as soon as he comes home."

"But he'll not forgive me. He thought so much of the vase; it was so beautiful. But he needn't give me the gold watch for a birthday present. Couldn't he buy another vase for the money that would cost? I don't care anything about the watch. Oh, I'd rather never have a watch or anything else, than that he should be angry with me; and he gets so angry and says such dreadful things to me when I'm in fault, and it seems as if I am always doing wrong.—Won't you tell him about the vase, mother? I wish you would. Tell him I didn't do it on purpose, that I am so sorry, that I'll try never again in my life to do anything to offend him." That mother saw deeper into her boy's heart than she had ever seen before. "I have been so tempted to conceal it," he said. "Father's anger seemed so dreadful to me, that I thought I could not bear it."

"Nothing is so hard to bear my son as the burden of a troubled conscience," said the mother. "Oh, never forget this."

"You'll speak to father about it, won't you?" John asked, entreatingly.

"Perhaps I had better do so."

"Tell him how sorry I am, that it was all an accident, that he needn't buy me the watch."

The mother's heart was deeply touched at the distress of her boy, and she felt it to be her duty to stand lovingly between him and the quick anger of an impulsive, yet not cruel-minded father.

Evening came, and with it the father's dreaded return. As soon as the mother was alone with him, she said, "Your agate vase is broken."

"What?" His face grew instantly crimson.

"Broken? Who did it?"

"John."

"John? Where is he?"

The father was already on his feet, resolved, under the blind impulse of the moment, to punish his son with extreme severity. He had asked no explanations; everything against the poor boy was taken for granted.

"It was an accident," said the mother.

"But what business had he to touch the vase!" was angrily responded.

"He was getting a book from the shelf, when it fell from his hand upon the vase."

"That's his story."

"He is a truthful boy," urged the mother.

"He's a meddlesome fellow, always interfering with matters in which he has no concern. I'll punish him for this, and severely, too. I'll teach him a lesson that he'll never forget." And he moved towards the door; but the mother laid her hand upon his arm.

"He has been punished enough already," said she.

"Who punished him? You?"

"If you had seen him as I have seen him, you would feel pity, instead of wrath. Don't speak a harsh word to him. He is nearly sick now, from dread of meeting your anger. He says you needn't buy him the gold watch for a birthday present, but keep the money for a new vase. He was strongly tempted to conceal his fault, and he might easily have done so, for I found the cat in your room, and thought that she had done the mischief."

"Did he know that you thought so?"

The father's voice was much softened.

"Yes; and he saw that he could escape without suspicion; but truth and honesty prevailed over fear. He came to me of his own accord, and confessed all."

For some time the father remained silent, steadily repressing his excited feelings, until his mind was clear and calm again; then he said, "Tell John to come here; I would like to see him alone."

"John your father wants you."

How pale the lad grew instantly.

"Don't be afraid," whispered the mother.

And yet, his knees smote together, as he went, almost tottering, from sudden weakness, to his father's room. Entering, he scarcely dared raise his eyes from the floor.

"My son."

Oh, what a load fell suddenly from his heart. The voice was neither loud or angry, but low, sympathizing, and tender. To have restrained the impulse, that instantly seized him would have been impossible.

"Father, dear father!" exclaimed the boy, clasping his arms about his neck, "I am so sorry! It was all an accident. Oh, what shall I do?"

"Only be more careful in the future, John," said the father, as soon as he could command his voice. "The vase is broken, and no grief or regret can mend it. You have told the truth about it; you have shown yourself an honest brave boy, and I do not feel in the least angry."

How clear and all-penetrating was the light which fell upon the spirit of that unhappy boy! The dark clouds that filled threateningly his sky were instantly dispersed. And was he not strengthened in all his good purposes by this forgiveness of his faults? He was strengthened. Kind, forgiving words from his father filled him with good impulses; angry words would have left him under a sense of wrong, all exposed to temptation, and, in the darkness of suffering that followed, he might have gained a bias to evil impossible in all after life, to overcome.

Impulsive, quick-to-be-angry, hasty father, shall we warn you, in serious words, against rash judgment of your children? No! The picture of life we have given needs nothing more to enforce the lesson it is designed to teach; and so we leave it with you to do its appropriate work. —[*Godey's Lady's Book.*]

[Written for the Valley Farmer.]

SPRING.

Welcome! welcome! genial Spring,
With soft and balmy air—
With all the tender gifts you bring
Of many dyes and fair!

Thy softness decks the sunset sky
In gold and purple hue;
And thousand beauties richly vie,
With changes FRESH and NEW!

We trace thy magic in the flowers,
As budding leaves unfold;
And see thy SMILE in wildest bowers,
More fair than bard hath told.

We feel thy freshness in each brook,
As soft it gently greets,
And bears from blooming flowers and trees,
Its gifts of purest sweets.

The warbling of the birds, once more,
Falls sweetly on the ear:—
The bee hath left its honey'd store
To taste of flowerets near.

While Nature thus, each coming spring,
Earth's faded things renew,
Shall youth, with man, for'er take wing,
And bloom no more anew?

Yes! beyond the verge of time,
There is a clime, in truth,
Where man shall flourish in his prime,
And bloom in fadeless youth.

THOS. W. NEWMAN.

If your flat irons are rough rub them with fine salt.

If you are buying a carpet for durability choose small figures.

A hot shovel held over varnished furniture will take out white spots.

A small piece of glue dissolved in skim milk and water will restore old crape.

Ribbons should be washed in cold suds and not rinsed.

Scotch snuff put in holes where crickets come out will destroy them.

Half a cranberry bound on a corn will soon kill it.

Domestic Department.

TO REMOVE CLINKERS IN STOVES.—Persons troubled with "clinkers" adhering to the lining of their stoves or furnaces may be interested in knowing that by placing a few oyster shells into the grate, while the fire is ignited, the clinkers will become loosened so as to be readily removed without the danger of breaking the lining. We have tried this remedy, and, while the chemical action is involved in mystery, it accomplished the result to our satisfaction. Who will explain the theory of the action of the gas emitted from the decomposition of the shells upon the clinkers?—[SCIENTIFIC AMERICAN.]

PRESERVATION OF MILK AND CREAM.—Put the milk into bottles, then place them in a saucepan with cold water, and gradually raise it to the boiling point; take it from the fire, and instantly cork the bottles, then raise the milk once more to the boiling point for half a minute. Finally let the bottles cool in the water in which they were boiled. Milk thus treated will remain perfectly good for six months. Emigrants, especially those having children, will find the above hint add much to their comfort while on their voyage.

TO REMOVE RUST FROM IRON UTENSILS.—Rust may be removed by first rubbing oil well into the article, and, in forty-eight hours, cover it with finely powdered lime, rub it well and the rust will disappear.

OR: The preservation of iron from rust may be accomplished thus: Add to a quart of water half a pound of quick-lime; let this stand until the surface is perfectly clear; pour off the clear liquid, and stir up with it a quantity of olive oil, until it becomes a thick cream. Rub any articles which are to be put by with this mixture, and then wrap up in paper. If the nature of the articles will not admit of their being wrapped up in paper, they will remain free from rust by covering them more thickly with the mixture.

TO CLEAR THE VOICE.—A sal prunella ball placed in the mouth occasionally, for a short time, has an excellent effect; and is a popular remedy for huskiness.

OR: A glass of cold sherry and water, with a lump of two of sugar.

TO CLEANSE MARBLE.—Marble is best cleansed with a little clean soap and water, to which some ox-gall may be added. Acids should be avoided.

SKELETON LEAVES.—Steep the leaves for weeks in rain water, in a warm place freely exposed to the air; when nearly ready, add a small quantity of muriatic acid to it. A great deal of care is, however, required in picking out with needles the parts that are not rotted away.

TO PREVENT SMOKE FROM A LAMP.—Soak the wick in strong vinegar, and dry it well before you use it; it will then burn both sweet and pleasant, and give much satisfaction for the trifling trouble in preparing it.

WASHING PAINT.—The best method to wash paint is to rub some bath-brick fine, and when you have rubbed some soap on the flannel, dip it in the brick. This will remove the grease and dirt speedily, without injury.

TO CLEAN CHINA AND GLASS.—The best material for cleaning either porcelain or glass-ware is fullers' earth, but it must be beaten into a fine powder and carefully cleared from all rough or hard particles, which might endanger the polish of the brilliant surface.

HAIR WASH.—An excellent and perfectly harmless hair wash may be made as follows: Take a small quantity of rosemary, strip the leaves from the stalks, and put them in a jar, with nearly half a pint of cold water. Place the jar near the fire, and let the contents simmer gently for an hour or two, without setting or burning. When the water is somewhat reduced, the

infusion will be sufficiently strong. Then add half a pint of rum and simmer the whole for a while longer. When cold, strain the liquid from the leaves, and keep it in a bottle to be ready for use. Apply it to the roots of the hair with a small sponge or a piece of flannel. Egg wash for the hair is made by beating up the yolk of a raw egg, and adding it to rosemary infusion made as above.

FISH VINEGAR.—One ounce and a half of Cayenne pepper, two tablespoonfuls of walnut catsup, and two tablespoonfuls of sauce; put into a quart bottle of vinegar, with a few shreds of garlic and shalots. Shake it well every day for a fortnight. Then fill up the bottle with vinegar, and it will be fit for use in a few days.

CUCUMBER CATSUP.—The "Harrisburg (Pa.) Union" gives the following receipt: Take two dozen full-grown cucumbers and six white onions; peel the onions and cucumbers, and then chop them as fine as possible; sprinkle on three-quarters of a pint of fine table salt; put the whole in a sieve, and let it drain twelve hours; then take a teacupful of mustard-seed, half a teacupful of whole black pepper, and mix them well with the cucumbers and onions; put the whole into a stone jar, with the strongest vinegar; close it up tightly for three days, and it is fit for use. It will keep for years.

BEANS make an excellent article of food for winter use, and may be prepared in a variety of ways. First, there is the old fashioned dish of baked pork and beans, good either hot or cold; and just the thing for "over Sunday." Some young housekeeper may have forgotten to "ask Mother" how to cook this convenient and economical dish, and for her benefit, I will jot down my way.

Pick over and wash a quart of beans; soak them ten or twelve hours in three quarts of cold water; drain them; put them into a kettle; add fresh water enough to cover them well. When they begin to boil, drain them again through a colander or coarse sieve, and cover them again with cold water. Lay a bit of pork four inches square upon them, cover them closely, and let them boil till they are tender. Add a teaspoonful of soda, or refined saleratus and a little salt, if the pork has not salted them sufficiently. Stir them thoroughly, pour them out into a bake pan; cut the rind of the pork into squares, and place it in the centre; put the whole in a moderately hot oven. Bake till a fine, crisp, brown crust has formed over the top. If you have neglected to put them soaking the night previous, and wish to prepare them on short notice, they can be made nearly as good by putting them over dry, if you change the water three times instead of twice.

The skin of cod-fish, nicely scraped, washed and dried, is a very good substitute for eggs in settling coffee. A piece the size of a quarter of a dollar will clarify as much as an egg.

POTATOES FOR BREAD.—When potatoes bear such a price to wheat flour, that, when cooked, they are about half the price per pound of the flour, it is economy to add about one-fourth the weight of potatoes that is used of flour, for a batch of bread. Bread so made is pleasanter to the taste, and equally nutritious. The potatoes should be boiled with the skins on, and then peeled, mashed and stirred into a pulp, with warm water, and rubbed through a wire sieve, and then mixed with the flour, and yeast added as for other bread. The bakers of New York understand the economy of using potatoes in their bread, whenever they are sold at low prices. The small potatoes, which are unsaleable for other purposes, are often sold wholesale to bakers and added to the bread.

Editor's Table.

THE WEATHER AND THE CROPS.—After a ride through considerable portions of Indiana, Southern Kentucky and Tennessee, we regret that we cannot give a very flattering account of the growing crops. Wheat, which was early sown, in some sections looks tolerably well, but in some portions of Indiana and Kentucky the fly has made its appearance and has greatly injured the prospect of that portion of the crop that had most successfully escaped death by winter. Some of the late sown wheat that was badly frozen out has spread more than it was at first anticipated and will yet produce one-quarter to half an average yield—provided it escapes the next great enemy, the rust. Where the wheat has been entirely killed out, an unusual breadth of land has been planted to corn. In Southern Kentucky and Tennessee, much of it was up at the time of the frosts near the close of April, and the beginning of May looks sickly and yellow; but with timely rains and warm weather will come forward and entirely recover from the effects of the frost.

Oats are backward, and have not spread well for want of rain, but before these lines go to press we hope to receive refreshing showers, which will materially change the prospect of all the growing crops.

TOBACCO EXHIBITION AT PADUCAH, KY.—On the 9th of May the exhibition of tobacco was held for the southern district of Kentucky, at Paducah. A large quantity of the Kentucky staple was shown. The 1st premium of \$150 for best **MANUFACTURING LEAF** was awarded to J. H. Sublett, of Ballard County.

1st premium of \$150 for the best **SHIPPING LEAF** was awarded to W. P. Griffin, of Ballard Co.

1st premium of \$100 for the best **CUTTING LEAF** was awarded to R. Pardo, of Henry Co.

Premium of \$100 for the **BEST FIVE HOGSHEADS**, was awarded to Messrs. Turner & Buchanan, grown in Greaves Co.

Second and third premiums ranging from \$50 to \$15 were awarded on each class to other individuals.

TOBACCO FAIR AT LOUISVILLE.—The greatest tobacco fair yet held under the auspices of the Kentucky State Agricultural Society, took place at the Pickett Warehouse in Louisville, on the 17th of May. The amount of Premiums offered by the Society was \$1,100, to which Messrs. Spratt, Bourn & Co. proprietors of the Warehouse, added \$500 more. A large quantity of tobacco was offered for exhibition—over 300 hogsheads. We have not space to give the awards in full, but name the successful competitors for the 1st premiums for the different kinds:

Best hogshead of **Manufacturing Leaf**, premium \$100, to W. R. Wells, of Hart Co.

Best hogshead of **Shipping Leaf**, premium \$100 to Wm. Bradshaw, of Todd Co.

Best hogshead of **Segar Leaf**, premium \$100 to A. J. Whipp, of Bracken Co.

To the lady, to whose name was entered the best hogshead of Leaf Tobacco, without regard to classification, a Coffee and Tea Set, of Plated Silver, \$125, Mrs. A. J. Whipp, of Bracken Co.

Best five hogsheads, premium \$100, Wilson & Bryant, of Barren Co.

At the close of the exhibition, a bountiful banquet was provided by Messrs. Spratt, Bourn & Co., which of course called together not only all who were immediately interested in the exhibition, but numerous others, whose chief object was the good things provided for the occasion.

STEAM PLOWING TRIUMPHANT.—The "Prairie Farmer," for May 3d, gives a notice of the successful operation of Waters' **STEAM PLOW** in breaking prairie at Minooka, Illinois. The machine plows at the rate of about two and a half acres of rolling prairie an hour, and up to the time of the writer's leaving, had broken seventy acres, and executed the work well.

The machine is designed to run thirteen plows, but during this trial but six were attached, these cut a furrow of nine feet in width. From this and other similar demonstrations the breaking of prairies may be regarded as a fixed fact; but whether the work will ultimately be executed by traction engines or rotary diggers, time must determine.

SOMETHING NEW.—The "Scientific American" calls on inventors to furnish the well-to-do portion of the world with new cooking utensils, which shall be lined with silver, to prevent the evils of oxidation to which iron, brass, lead, &c. are subject. It thinks our kettles might be galvanized or coated on the inside with silver, something like the porcelain lining now used. The Western silver mines will give us the materials.—If inventors and mechanics have the skill, let us see it. All our cooks would rejoice in the use of silver-lined kettles.

POMOLOGICAL SOCIETY OF ANNA, ILL.—Eds. Valley Farmer:—A society bearing the title of "Pomological Society of Anna Ill." was organized at Anna, Union Co. Illinois, "in the heart of Egypt," on the twenty-first of April. Our Society, although small as yet, comprises some zealous and intelligent fruit growers from the Eastern States, and bids fair to become in a short time an organization of considerable importance.

A Constitution was adopted, and the following officers elected, viz: E. Harwood, Pres.; John Humphrey and C. L. Brooks Vice-Presidents; E. Harwood Treasurer; E. Babcock Rec. Sec'y, and A. Babcock Corresponding Sec'y.

Judging from present indications we shall have an abundant crop of peaches in Egypt the coming season. Some of the earlier kinds of strawberries are half grown and promise a fine crop. Winter wheat sown in September looks well. A. BABCOCK.

ANNA, ILL. April 21, 1866.

W. W. Humphreys, of Charleston, Mo. inquires the price of A. HAMMOND'S Drain Plow. It depends on the size, there being several. Price at shop, from \$50 to \$225, according to size and way rigged. Full particulars can be had by addressing a line to Messrs. Plant & Brother, 14 North Main Street, St. Louis, the Agents for the sale of machines and territory.

ENCOURAGING SIGNS FROM THE FARMERS.—T. M. Easterly, of 77 Locust street, has sold six of George Esterly's combined self-raking reapers and mowers, in one week, for cash. This looks well for thus early in the season.

Esterly's machine has the best record of practical trials of any in the country. It has and will cut more acres of grain or grass in a given time, with two horses or mules, than any other harvester in use. It matters not whether the time be ten hours or ten days. The self-raker does the work equal to the most expert hand labor, and saves the wages of one man.—[Mo. DEMOCRAT.

Great Improvements in Grinding Flour.

Our attention has been called to a new process of grinding flour, which has been introduced into this city by our much respected and spirited citizen, Geo. L. Tucker, Esq. of the Pacific Flour Mills. These improvements have been invented and patented by Mr. C. Rands, of Peoria, Illinois, who has secured his patent, not only for the United States, but also for England, France, Belgium and Australia, and it is being introduced as fast as practicable throughout the civilized world.

The description of these improvements set forth in a very clear manner the many advantages effected, and which appear very reasonable; but the practical results are the tests to which millers desire to arrive at. This can now be seen at the Pacific Mill, St. Louis, or at the Peoria City Flour Mills, Peoria, Ills. which is partly owned by the inventor.

The new process of grinding produces a better yield, will grind three times as fast as the ordinary stones, and makes a better flour, and does not require more than half the power per bushel required by the ordinary stones.

These are results which deserve to be closely investigated by our millers, as they no doubt will be, and will give an important impetus to our milling trade.

The means by which these important results are arrived at are in themselves exceedingly simple, and that they are suited to effect the object required is self-evident:

Firstly. Only about eight or nine inches of the outer rim of the stone is used as a grinding surface, the meal, therefore, has a shorter distance to travel.

Secondly. Instead of depending upon the centrifugal force to expel the meal, a fan is placed across the grinding surfaces within the stone, revolving at 1,200 revolutions per minute, causing a strong current, which blows through the furrows of the mill stones, so as to expel the meal as soon as it is sufficiently reduced; by this means the whole of the grinding surface is employed on new work, and the flour, once reduced, never gets a second rub, so that the meal is always cool and bolts more freely.

Thirdly. The non-running stone is hung on a universal joint, so that the whole face is brought into uniform and continuous action, and reduces the whole of the flour to a proper fineness, making less of middlings, and giving a larger yield of flour. The inventor assures us that, with a proper increase of speed, there is no difficulty in grinding one hundred bushels an hour with one run of burrs, making the fullest yield with good work.

Fourthly. Another important improvement is made in the feed apparatus, by which a regular, continuous and unfailing supply of wheat is delivered to the stone. The feed apparatus is self-acting, taking its power from the stone spindle, so that when the stone runs, fast the feed runs fast, and when the stone runs slow the feed runs slow, and when the mill stops the feed will cease, thus rendering milling less dependent upon human agency, and substituting the unerring certainty of perfect machinery.

These inventions must be seen to be appreciated, and, as they overcome most of the difficulties which millers have heretofore had to contend with, there is no doubt of its universal adoption.—[REPUBLICAN.

THE FREEMASON'S ALMANAC, FOR 1860.—Messrs, Morris & Monsarrat, publishers of Masonic Works Louisville, Ky., have placed on our table a copy of this unique work, compiled by Rob Morris, in which we find condensed in 64 large pages, a complete statement of the origin, progress and present condition of Freemasonry in North America, as displayed in Lodges, Chapters, Councils, Encampments, and Con-

sistories; together with tabular synopses, chronological tables, literary announcements, and a thesaurus of Masonic precepts, maxims, and historical items of incalculable value.

This is the first Masonic Almanac published in thirty-one years. The last was issued during the heat of the anti-Masonic excitement, and under all the depression of political opposition. Now the gavel of Masonry ring, its jewels gleam, its good deeds fructify in every town, village, and hamlet in the land, and the Almanac before us is a worthy exponent of the whole.

We give a single instance to show the richness of Mr. Morris' resources in Almanac making. Under the date April 12, we find the following chronological events, all of a strictly Masonic character:

1777 Henry Clay born. 1792 Lord Durham born.—1854 Grand Encampment of Pennsylvania re-established. 1856. Corner Stone of Monument to Henry Clay, at New Orleans planted. 1857 E. Smith Lee, Past Grand Master Michigan, died. These, it will be observed, are the incidents of a single day in the year. The whole Almanac displays the same inexhaustable profusion.

The price for a single copy is 15 cents or 10 copies for \$1. We heartily recommend it, not only to Freemasons, but to all who are interested in the social history of our nation.

CONTENTS OF NO. 6.

Agricultural.

The North American Sylva, - - -	161
American and English Agricultural Fairs, -	164
Advantages of Summer Soiling, - - -	164
Rotary Steam Plow, - - - - -	165
Best Timber for Fencing—Cost of Fencing, -	166
Under-draining with the Mole Plow—Public Trial, -	168
Setting Fence Posts; The Farmer on His Feet, -	170
Potato Rot, - - - - -	171
A State Board of Agriculture for Missouri, -	172
The New Power; Cut Worms and Tobacco, -	172
New York State Agricultural College, - - -	173
Letters to Young Farmers, No. 3, - - -	173
The Sky an Indicator of the Weather, - - -	174
A Reaper, - - - - -	175
Kirby's American Harvester, as a Reaper, -	176

Stock Department.

An Interesting Letter—Treatment of Swine, -	177
Pleuro-Pneumonia, - - - - -	179
Cooked Food for Hogs, - - - - -	180

Horticultural.

Fruit Bud Grafting, or a New Method of Fertilizing Barren Trees, - - -	181
A New Fertilizer; Vine Culture in California, -	182
Premiums for Orchards, - - - - -	183
How to Grow Large Grapes, and to Secure Early Maturity; Grafting the Grape, - - -	184
Monthly Hints for the Garden, - - - - -	185
Remarkable Effects of Lime on Peas, - - -	186
Meramec Horticultural Society; Currant Wine, -	187
Fruit Wines, - - - - -	188

The Apiary.

Hints for the Month, - - - - -	188
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Home Circle.

The Broken Vase, - - - - -	189
Poetry—Spring, - - - - -	191
Domestic Department, - - - - -	192

Editor's Table.

The Weather and the Crops; Tobacco Exhibition at Paducah, Ky.; Tobacco Fair at Louisville	193
Great Improvements in Grinding Flour,	194